>> **SPECIAL FEATURES**

State News
Brain Boosters
Power Packed News
One Liners
UPSC Prelims Mock Paper

SEMICONDUCTORS
India's Next Strategic Leap

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
Dhyeya IAS

Team Perfect 7

Founder	: Vinay Singh
Managing Director	: Q.H. Khan
Managing Editor	: Vijay Singh
Editor	: Vivek Ojha
Co-Editor	: Ashutosh Mishra
Sub-Editor	: Bhanu Pratap
	: Rishika Tiwari
Designing	: Arun Mishra
Cover Design	: Sonal Tiwari

-: For any feedback Contact us :-
+91 9369227134
perfect7magazine@gmail.com

-: Credits :-

PIB, PRS, AIR, ORF, Prasar Bharati, Yojana, kurukshetra, The Hindu, Down to Earth, The Indian Express, India Today, WION, Deccan Herald, The Times of India, Hindustan Times, The Economic Times, BBC, Dainik Jagran, Dainik Bhaskar and Others

Yearly Subscription

Price	Issue	Total	After Discount
140	12	1680	1200

Half Yearly Subscription

Price	Issue	Total	After Discount
140	6	840	600

*Postal charges exta

PERFECT 7

In This Issue

India's Federal System Moving Towards One Nation One Election

The Union Cabinet, led by Indian Prime Minister Narendra Modi, has recently approved the 'One Nation-One Election' proposal. This significant decision comes after the presentation of the report from the high-level committee on this initiative. The bill is expected to be introduced during the upcoming winter session of Parliament. The One Nation-One Election proposal aims to hold Lok Sabha and state assembly elections simultaneously. If implemented, this would mean that all state assembly elections and Lok Sabha elections would occur at the same time. Voters will use two machines at the election booth: one to select their Member of Parliament (MP) and the other to choose their Member of Legislative Assembly (MLA). The voting process will take place over 11 hours, during which voters will have the opportunity to decide not only on their MPs but also MLA's.

❖ A committee was established under the chairmanship of former President Ram Nath Kovind to explore the feasibility of implementing the One Nation-One Election initiative. The Government formed this committee as part of its commitment to one of the key promises outlined in the BJP's Lok Sabha election manifesto. In March, 2024, the committee submitted its report to the President, consisting of a detailed 18,626-page document. The report recommends that the first step toward achieving simultaneous elections for Lok Sabha and state assemblies should be taken. Importantly, the committee noted that while consent from the states will not be necessary, a constitutional amendment will be required to facilitate this significant change.

❖ 47 political parties had shared their views with the committee, out of which 32 political parties were in support of 'One Nation One Election'. The report says that "except for only 15 political parties, the remaining 32 parties not only supported the simultaneous election system but also strongly advocated adopting this option to save limited resources, maintain social harmony and accelerate economic development.

❖ It is noteworthy that when the elections were held for the first time in the country after independence in 1951-52, then Lok Sabha elections and assembly elections in all the states were held simultaneously.

After this, this sequence continued in three more terms - 1957, 1962 and 1967. With one exception, when in 1959 the then Namboodiripad government of Kerala was dismissed and President's rule was imposed in the state. In 1968 and 1969, the assemblies of some states were dissolved and finally in the year 1970, the Lok Sabha was also dissolved. In such a situation, it became necessary to reconsider the electoral management in the country.

Challenge before the government regarding One Nation One Election:

❖ The One Country-One Election Bill will only be approved if it is passed by both houses of Parliament. For this to happen, amendments to the Constitution will be necessary, specifically to Articles 83, 85, 172, 174, and 356. One of the government's biggest challenges will be securing the required constitutional amendments, which will need a two-thirds majority in Parliament.

❖ The issue of constitutional amendments in the context of general elections has already sparked heated debates. The opposition may use this topic to shape the narrative and challenge the government's proposal. Therefore, it is crucial for the government to gain the trust of the nation and political parties, ensuring that the federal structure of the country remains unharmed while implementing this significant reform.

Arguments Against One Nation One Election:

❖ Opponents of this proposal argue that conducting simultaneous elections will have a direct impact on the federal structure of the country, regional issues will be ignored and accountability to the public will be at risk.

❖ There are 7 national parties and more than 50 regional parties in India. On the basis of election trends, it can be said that the public votes for different demands and different agendas in general elections and assembly elections. National issues are different, state issues are different and each state is also different. During general elections, foreign policy, income tax or national security are discussed, whereas during local bodies and state elections, issues related to water, roads and such facilities dominate the agenda. In such a situation, it would not be logical to conduct all elections together.

❖ Regional parties say that if Lok Sabha and state assembly elections are conducted simultaneously, regional issues will be overshadowed by national issues. Due to repeated elections at the state level, the attention given to regional issues will be focused only on national issues. National parties will repeatedly refer to the double-engine government and this will divide the voters of regional parties. The autonomy of state governments will be affected. Whichever party is the main party in the central government, it can benefit more under the guise of a policy decision.

❖ Due to elections being held from time to time, public representatives have to remain constantly accountable. No party or leader can act autocratically after winning an election. If elections have to be won, then just campaigning will not suffice. Work will also have to be done for that, but if a single party gains dominance or a leader becomes convinced that he is everything, then the possibility of autocracy will increase.

Arguments in favor of One Nation One Election:

❖ Those who are in favour of this clause argue that the expenditure will be less, there will be convenience and there will be no hindrance in work. Whenever and wherever elections are held in the country, a model code of conduct is implemented and after the notification of the election is issued, the government cannot announce any project, start any new scheme, give any financial approval or make any new appointment. Now every year some election or the other is held, so the model code of conduct is implemented every year. The administration is busy with work, the leaders are also busy with campaigning. During elections, important policy decisions are not taken and there is a problem in implementing many schemes. Therefore, development work is directly affected. Therefore, it is said that if Lok Sabha and Assembly elections are held in the country at the same time, then the model code of conduct will be applicable for a short time only. After this, there will be 'development only development' in full swing.

❖ During elections in the country, the services of teachers and government employees are taken. A large number of police and security forces are deployed. It is also said that if all elections are held together, then there will be no need to deploy government employees and security forces on election duty again and again. Their time will be saved and they will be able to do their duty properly.

❖ According to a report by the Center for Media Studies, during India's first election in 1951-52, a total of 68 phases were held and the cost was Rs 10.5

crore. In 2019, this cost increased to Rs 50,000 crore and for 2024, the same report has estimated the cost at Rs 1.35 lakh crore. The expenditure per voter has also increased. Which was 6 paise per voter in 1951, has become Rs 46 in 2014. The supporters of one country-one election say that every time elections are held, the money of the countrymen is wasted. The financial burden on the government treasury increases. That is why if elections are held once, then the expenditure will be incurred only once.

Recommendations of Kovind Committee on One Nation One Election:

Among the important recommendations made by the Ram Nath Kovind High Committee on 'One Nation One Election' on this subject are:

❖ Not holding simultaneous elections for the first two decades after independence has negatively impacted the economy, politics, and society. Initially, India had two elections every ten years, but now, numerous elections are held each year. To address this, the government should establish a legal framework to restore the cycle of simultaneous elections.

❖ The elections could be conducted in two phases. In the first phase, Lok Sabha and State Assembly elections would be held, followed by municipality and panchayat elections in the second phase. These elections should be coordinated in such a way that the second phase is completed within 100 days of the Lok Sabha and Assembly elections. To streamline this process, a unified voter list and voter photo identity card should be organized. Constitutional amendments would be required for this, and the process should be carried out in consultation with the Election Commission.

❖ According to the committee's recommendations, in the event of a hung House or a no-confidence motion, fresh elections should be held to form a new House. However, the term of the newly elected Lok Sabha or Assembly would only last for the remaining term of the previous one. These elections will be referred to as 'mid-term elections', while the elections held after a full five-year term will be considered 'general elections'.

How to conduct elections according to Kovind Committee?

❖ The President can implement the provisions of this article through a notification on the day of the first meeting of the Lok Sabha following the general elections, which will be referred to as the "appointed date." From this date onwards, the terms of the Legislative Assemblies, if they end before the Lok Sabha term, will align with the subsequent Lok Sabha elections. Afterward, elections for both the Lok Sabha and the Legislative Assemblies of all states can be held simultaneously.

❖ A dedicated group should be formed to oversee the implementation of the committee's recommendations. Additionally, the Election Commission should prepare plans and estimates in advance for logistical requirements, such as purchasing EVM machines and VVPATs, deploying polling personnel and security forces, and making other necessary arrangements for Lok Sabha and Legislative Assembly elections. Meanwhile, the State Election Commissions should take responsibility for organizing elections for municipalities and panchayats, ensuring all logistical preparations are in place for smooth execution.

Short Issues

Aparajita Women and Child Bill, 2024

Why in News:

The West Bengal Legislative Assembly has passed the Aparajita Women and Child (West Bengal Criminal Laws Amendment) Bill, 2024 through a unanimous voice vote. The Bill introduces key reforms aimed at increasing punishment, expediting investigations and ensuring swift justice in cases of sexual assault. It specifically targets offenses under the Bharatiya Nyay Samhita (BNS) and the Protection of Children from Sexual Offences (POCSO) Act.

More about the News:

➢ This legislation aims to enhance the State's legal framework for addressing sexual assault cases, ensuring harsher punishments and faster investigations, while also holding law enforcement agencies accountable

for negligence in filing FIRs.

➢ A special 'Aparajita Task Force' will be created from among the State police to ensure time-bound completion of investigations.

➢ Amendments moved by the Leader of the Opposition include mandatory punishment for police officials who refuse to register First Information Reports (FIRs) in sexual assault cases.

➢ The Bill includes provisions for capital punishment for those convicted of rape if the victim dies or is left in a persistent vegetative state.

➢ Time bound Investigations into rape cases must be completed within 21 days of the initial report.

Amendments to the Bharatiya Nyay Samhita (BNS), 2023:

Section 64(1) (Punishment for Rape):

➢ **The original provision:** "rigorous imprisonment for a term which shall not be less than 10 years, but may extend to imprisonment for the remainder of that person's natural life, and shall also be liable to a fine."

➢ **Amended to:** "rigorous imprisonment for life, which shall mean rigorous imprisonment for the remainder of the person's natural life and fine, or with death."

Section 64(2) (Rape by Public Servants/Officials):

➢ The original provision deals with the rape by police officers, public servants, armed forces personnel, or staff in jails/remand homes.

➢ Amended to: "rigorous imprisonment for life, which shall mean rigorous imprisonment for the remainder of that person's natural life and fine, or with death."

Section 66 (Punishment for Causing Death or Persistent Vegetative State):

➢ The original provision: "rigorous imprisonment for a term which shall not be less than 20 years, but which may extend to imprisonment for life, which shall mean imprisonment for the remainder of that person's natural life, or with death."

➢ Amended to substitute the words "with death," making capital punishment a sentencing option in these cases.

Due Diligence Obligations:

➢ India is a signatory to the UN Convention on the Elimination of Discrimination Against Women (CEDAW), which requires the country to respect, protect and uphold the human rights of women, including addressing violence against them.

The concept of due diligence serves as a measure of how well the state fulfills its obligations to protect women from violence. This framework is based on five key areas:

➢ **Prevention:** The state must address the root causes of violence, work to change societal attitudes, eliminate risk factors, reach out to victims and ensure comprehensive laws are effectively implemented. It should also include data collection, collaboration with women's organizations and consider at-risk groups.

➢ **Protection:** The state must ensure support services are available and accessible to victims, train first responders, and promote positive attitudes through training relevant personnel.

➢ **Prosecution:** The state has a duty to investigate and prosecute cases efficiently, fairly, and sensitively. Legal aid and support should be provided to victims, and the criminal justice system should work efficiently.

➢ **Punishment:** Punishments for perpetrators must be certain and proportionate to the crime. The legal system should also offer more than just imprisonment as a punishment option.

➢ **Provision of Redress and Reparations:** The state should adopt a victim-centered approach, ensuring reparations are provided, and work on institutional reforms to create lasting change.

➢ To meet its due diligence obligations, a state must address most or all of these areas.

Conclusion:

The Aparajita Bill focuses primarily on increasing punishments and introducing fines for victims, but it does not sufficiently address prevention, protection, or prosecution in a comprehensive manner. While these measures may have some impact, they do not fully meet the state's responsibilities in terms of punishment and reparations. It is important to also tackle the underlying causes of sexual violence against women and children. Instead of focusing on stricter amendments to criminal laws, a more balanced approach with long-term measures and consistent government efforts at the community level could be more effective in addressing the issue of sexual violence.

Assam Accord

Why in News:

Assam is set to implement most recommendations of the Justice Biplab Sarma Committee on Clause 6 of the Assam Accord. This move aims to safeguard the rights of indigenous communities against outsiders. The 52 recommendations in the first two categories

will be implemented by April 2025, for which the state government will submit a roadmap to AASU by October 25 this year.

Background:

➢ This decision follows renewed movements in eastern Assam to protect indigenous communities and comes after the Justice Biplab Sarma Committee submitted its report in 2020.

➢ The Assam Accord was signed in 1985 to address concerns around illegal foreigners, but Clause 6 remained unimplemented due to lack of consensus on who qualifies as Assamese.

Key Recommendations to be implemented:

➢ **Constitutional Safeguards:** Protection of cultural, social and linguistic identity and heritage of the Assamese people.

➢ **Land Rights:** Measures to ensure land ownership and protection for indigenous communities.

➢ **Language and Culture:** Promotion and preservation of Assamese language and culture.

➢ **Reservation:** Reservation of seats for Assamese people in legislative assembly, Lok Sabha, and panchayat elections.

➢ The implementation will exclude Sixth Schedule areas, such as Bodoland Territorial Region, Dima Hasao Autonomous Council and Karbi Anglong Autonomous Council, as well as the Bengali-dominated Barak Valley, until approvals are obtained from respective authorities.

About Clause 6 of the Assam Accord:

➢ Clause 6 of the Assam Accord is all about safeguarding the cultural, social, and linguistic identity and heritage of the Assamese people.

➢ It ensures that appropriate constitutional, legislative and administrative safeguards are in place to protect and promote the unique aspects of Assam's indigenous communities .

➢ The Assam Accord was signed in 1985, marking the end of a six-year-long anti-foreigner movement in Assam.

➢ The movement was sparked by concerns over the large influx of migrants from Bangladesh, which led to fears that the indigenous communities would become minorities in their own state

Conclusion:

The implementation of the Justice Biplab Sarma Committee's recommendations is a step towards fulfilling the aspirations of the Assamese people and strengthening the social fabric of Assam.

Peace Agreement Signed in Tripura

Why in News:

Memorandum of Settlement (MoS) between the Government of India, the Government of Tripura and the insurgent groups National Liberation Front of Tripura (NLFT) and All Tripura Tiger Force (ATTF) was signed.

Key Highlights:

➢ **Historic Agreement:** The MoS marks a pivotal moment in Tripura's journey towards peace and development. The agreement formalizes the commitment of 328 insurgents from the NLFT and ATTF to renounce violence, disband their armed organizations, and integrate into mainstream society.

➢ **Development Initiatives:** As part of the peace agreement, the Centre has approved a substantial 250 crore special package aimed at the holistic development of Tripura's tribal population. This financial commitment underscores the government's resolve to address the root causes of insurgency and foster regional development.

Background of Insurgent Groups:

➢ The NLFT and ATTF, active since the late 1980s and early 1990s respectively, have been involved in violent activities with objectives including the expulsion of migrants and the restoration of tribal lands. The NLFT is accused of over 600 killings, while the ATTF has been linked to more than 300 deaths and numerous abductions.

Peace Efforts and Outcomes:

➢ This agreement represents the 12th peace pact for the Northeast region and the third for Tripura in the last decade. Over 10,000 insurgents have integrated into mainstream society through these agreements, significantly reducing violence and saving countless lives.

A Vision for Peace and Development in north east region:

➢ The government has negotiated and signed numerous peace accords with various insurgent groups.

Important Agreements:

➢ Naga Peace Accord
➢ Assam-Meghalaya Boundary Agreement, 2022
➢ Karbi Anglong Agreement, 2021

- Bodo Accord, 2020
- Bru-Reang Agreement, 2020
- NLFT-Tripura Agreement, 2019

Development Initiatives:
- Kaladan Multi-Modal Transit Project
- North East Industrial Development Scheme
- Prime Minister's Development Initiative for North Eastern Region (PM-DevINE)
- North East Special Education Zone

Cultural and Social Initiatives:
- Promotion of regional languages and cultural festivals
- Support for cultural centres
- Interstate cooperation through the Northeastern Council

Other Initiatives:
- Bharatmala Pariyojana
- Regional Connectivity Scheme (RCS)-UDAN
- India-Myanmar-Thailand Trilateral Highway
- Swadesh Darshan Scheme
- National Bamboo Mission

Conclusion:

As Tripura embarks on this new chapter, the signing of the peace agreement represents a hopeful step towards long-term stability and progress. The integration of former insurgents into the mainstream and the substantial development package signify a commitment to addressing historical grievances and paving the way for a prosperous future for the region.

SC's View on Bulldozer Justice

Why in News:

Supreme Court of India has called for suggestions from concerned parties to establish comprehensive pan-India guidelines addressing extra-legal demolitions. This move comes in the wake of growing concerns about "bulldozer justice," a term referring to the demolition of properties allegedly linked to criminal activities, often affecting the accused's families and communities.

Proposed Guidelines:

- The Supreme Court's proposal for pan-India guidelines aims to address the excesses associated with bulldozer justice. The Court emphasized that demolitions cannot occur solely based on accusations; due legal process must be followed. The guidelines are expected to ensure:
  - » **Proof of Alleged Crime:** No property should

be demolished without a conviction or due legal process.
  - » **Legal Protocols:** Even for illegal constructions, demolitions must adhere to established procedures.

Ensuring Due Process:

The Court has proposed a structured framework to ensure fairness in demolitions:
- **Pre-Demolition Phase:** Authorities must justify the need for demolition, publish information about land records and resettlement plans, and allow affected individuals time to respond. An independent committee should review the proposed actions.
- **Demolition Phase:** Use of force should be minimized, heavy machinery avoided, and demolitions pre-scheduled. Surprise demolitions would be penalized.
- **Rehabilitation Phase:** Adequate compensation and rehabilitation should be provided, with a grievance redressal mechanism in place.

What is Bulldozer Justice?

- Bulldozer justice involves the extra-legal demolition of properties belonging to individuals accused of crimes. This approach, executed using bulldozers, has been observed in various parts of India. The tactic is typically employed as a form of collective punishment, targeting homes and businesses of those deemed involved in riots or other offenses.

Recent Examples:

- **Nuh, Haryana (2023):** The violence resulting from clashes between religious groups led to the demolition of several homes.
- **Khargone, Madhya Pradesh:** Similar demolitions occurred following communal riots, affecting properties owned by Muslims accused of rioting.
- In these instances, demolitions have been justified under municipal laws, often framed as actions against encroachments or unauthorized constructions. However, this approach frequently bypasses due process as prescribed by judicial precedents like the Sudama Singh vs Government of Delhi and Ajay Maken vs Union of India cases.

Violations of Rule of Law

- **Punitive Measures:** The bulldozer justice approach, characterized by its "eye for an eye" mentality, lacks proper legal justification and due process.
- **Fundamental Rights:** Demolitions conducted without adhering to legal procedures infringe upon fundamental rights, leading to potential

constitutional violations.

➤ **Loss of Assets:** Such actions can result in the loss of valuable assets, impacting the financial stability of affected families.

➤ **Ethical Concerns:** This approach raises questions about fairness and justice, especially when it involves displacing entire families.

Conclusion:

While bulldozer justice might seem like a swift solution to public disturbances, it fundamentally undermines legal processes and human rights. The Supreme Court's initiative to address these issues aims to balance state action with individual rights, ensuring that justice prevails within the framework of law.

New Flag and Emblem of the Supreme Court

Why in News:

President Droupadi Murmu recently unveiled the new flag and emblem of the Supreme Court of India in celebration of its 75th anniversary.

About the New Flag and Emblem:

➤ The new flag features the Ashoka Chakra, the Supreme Court building, and a book representing the Indian Constitution against a blue background.

➤ The Ashoka Chakra symbolizes the "wheel of justice" or Dharma Chakra and is inspired by the Lion Capital of Ashoka from the third century Mauryan Empire.

➤ The flag bears the inscription "Supreme Court of India" along with "यतो धर्मस्ततो जयः" (Yato Dharmastato Jayah) in Devanagari script.

➤ "यतो धर्मस्ततो जयः" is a significant Sanskrit expression translated as "Where there is Dharma, there is Victory" or "Victory resides where truth prevails." This phrase affirms the triumph of justice and truth, reflecting the ideals of the Supreme Court.

About the Supreme Court:

➤ According to Article 124 of the Indian Constitution, "There shall be a Supreme Court for India." The Supreme Court was established on January 28, 1950.

➤ Dr. Rajendra Prasad, the first President of India, inaugurated the current Supreme Court building on August 4, 1958.

➤ The original Constitution envisioned the Supreme Court with a Chief Justice and seven judges, granting Parliament the authority to increase this number.

Due to increasing workloads, Parliament raised the number of judges from 8 in 1950 to 11 in 1956, 14 in 1960, 18 in 1978, 26 in 1986, 31 in 2009, and finally to 34 (the current number) in 2019.

Functions and Structure of the Supreme Court:

➤ The Supreme Court is the highest court in India, responsible for interpreting the Constitution, resolving disputes between states and the center, and overseeing the legality of laws and government actions.

➤ **Judicial Review:** The Supreme Court reviews the constitutionality of laws and executive actions, and can invalidate any law that violates the Constitution.

➤ **Protection of Fundamental Rights:** The Court safeguards the fundamental rights guaranteed by the Constitution.

➤ **Interpretation of the Constitution:** It interprets the provisions of the Constitution, aiding in the understanding and application of constitutional principles.

➤ **Public Interest Litigation (PIL):** The Court accepts PILs, allowing individuals or groups to seek justice on public issues.

Conclusion:

The new flag and emblem of the Supreme Court not only enhance the dignity of the judiciary but also honor its 75 years of journey and achievements. Through this new symbol, the Supreme Court reaffirms its commitment to justice and truth, adding a significant chapter to the history of the Indian judiciary.

Subhadra Yojana

Why in News:

Odisha government has launched the Subhadra Yojana. This is a women-centric welfare scheme initiated by PM Narendra Modi, aimed at providing financial assistance to women aged 21 to 60 years. It is expected to benefit over 1 crore women.

Objective:

➤ The main objective of the Subhadra Yojana is to provide financial assistance to women from economically weaker sections.

➤ Under the scheme, eligible women will receive a total of 50,000 over the next five years.

➤ This amount will be transferred directly into Aadhaar-linked bank accounts in two instalments of 5,000 each, released on Raksha Bandhan and International

Women's Day.

Key Features:

Eligibility:

➢ Women aged 21 to 60 years from economically weaker backgrounds.

➢ Government employees, income taxpayers, and women receiving more than 1,500 per month from other government schemes are not eligible.

Instalments:

➢ Each eligible woman will receive 10,000 annually, disbursed in two instalments.

Duration:

➢ The scheme is set to run from 2024 to 2029.

Registration:

➢ Registration for the scheme began on September 1, 2024, and so far, over 5 million women have registered as beneficiaries. There is no deadline for registration.

Incentives:

➢ The top 100 women in each gram panchayat and urban area with the highest digital transactions will receive an additional 500.

Debit Card:

➢ Beneficiaries will be provided with a "Subhadra Debit Card" to facilitate easier transactions.

Implementation:

➢ The government aims to ensure efficient fund distribution using the JAM (Jan Dhan-Aadhaar-Mobile) trinity. Beneficiaries must complete e-KYC to qualify for the scheme. By September 17, 2024, 1,250 crore had already been transferred to the accounts of 2.5 million registered women.

Conclusion:

The Subhadra Yojana represents a new ray of hope for the women of Odisha. This scheme will play a significant role in empowering women economically and improving their social status. Economists believe that with a budget of 55,825 crore, this scheme will generate a multiplier effect in Odisha's economy, potentially contributing 2.5 lakh crore over the next five years.

NPS Vatsalya

Why in News:

In line with the July Union Budget 2024 Finance Minister Nirmala Sitharaman introduced NPS Vatsalya, a pension scheme for minors. This initiative was launched across 75 locations in India, with more than 250 Permanent Retirement Account Numbers (PRANs) issued to young subscribers.

About NPS Vatsalya:

➢ The NPS Vatsalya Scheme has been implemented as a savings-cum-pension scheme which enables parents to invest in an NPS account on behalf of their minor children. It is an extension of the existing National Pension Scheme (NPS) but focuses on children.

➢ The account will be registered in the minor's name and operated by the parent / guardian. Later, the account can be transitioned to a regular NPS Tier-I account of the child once he/she attains the age of 18.

➢ Managed by the Pension Fund Regulatory and Development Authority (PFRDA), the scheme is designed to secure long-term wealth for children.

➢ Permanent Retirement Account Number (PRAN) cards will be issued to newly registered minor subscribers.

Features of NPS Vatsalya:

➢ **Eligibility criteria:** Any minor, having PAN card and Aadhar card, who is under the age of 18 is eligible.

➢ **Minimum contribution:** A minimum of Rs 1,000 per year can be contributed with no limit on maximum contribution.

➢ **Contributors to the scheme:** Parents/guardians can contribute on behalf of their children.

➢ **Transition after the age of 18:** The minor's NPS account will transition to a standard NPS account, post the submission of required KYC documents.

About Pension Fund Regulatory & Development Authority:

➢ The Pension Fund Regulatory & Development Authority (PFRDA) Act, passed on 19th September 2013 and notified on 1st February 2014, regulates the National Pension System (NPS).

➢ PFRDA oversees NPS for employees of the central and state governments, private institutions, and the unorganized sector.

➢ Its primary goal is to promote old-age income security by regulating pension funds and protecting the interests of subscribers.

Conclusion:

NPS Vatsalya represents a significant stride in the government's commitment to encouraging long-term financial planning and security for all citizens. In addition to safeguarding subscribers' futures, the scheme is designed on the principle of intergenerational equity,

providing coverage for both older and younger family members. NPS Vatsalya will encourage young subscribers to develop a savings habit, and significant wealth can be built up through the effects of compounding. It may also serve as a mechanism for parents / guardians to secure their children's future through regular contributions to the minor's NPS account

Pradhan Mantri Janjatiya Unnat Gram Abhiyan

Why in News:

The Union Cabinet has approved Pradhan Mantri Janjatiya Unnat Gram Abhiyan with total outlay of Rs.79,156 crore for improving the socio-economic condition of tribal communities, by adopting saturation coverage for tribal families in tribal-majority villages and aspirational districts.

More Information:

➢ The scheme will cover around 63,000 villages benefitting more than 5 crore tribal people. It will cover 549 districts and 2,740 blocks spread across all tribal majority villages across 30 States / UTs.

About Pradhan Mantri Janjatiya Unnat Gram Abhiyan:

➢ India has ST population of 10.45 crore as per 2011 census and there are more than 705 tribal communities, spread across the country, living in remote and hard-to-reach areas.

➢ The Pradhan Mantri Janjatiya Unnat Gram Abhiyan aims to fill key gaps in social infrastructure, health, education, and livelihoods in tribal areas through various government schemes.

➢ The initiative includes 25 specific interventions carried out by 17 different ministries. Each ministry will implement its related schemes within a set timeframe using funds from the Development Action Plan for Scheduled Tribes (DAPST) to achieve following goals:

Goal I: Developing Enabling Infrastructure

➢ **Housing:** Eligible Scheduled Tribe households will receive pucca (permanent) houses under the Pradhan Mantri Awas Yojana (PMAY-Gramin). They will also have access to tapped water through the Jal Jeevan Mission, electricity via the Revamped Distribution Sector Scheme (RDSS), and the Ayushman Bharat Card (PMJAY) for healthcare.

➢ **Village Infrastructure:** The program will ensure

all-weather road connectivity to ST-majority villages (PMGSY), mobile connectivity (Bharat Net), and improved infrastructure for health, nutrition, and education (National Health Mission, Samagra Shiksha, and Poshan).
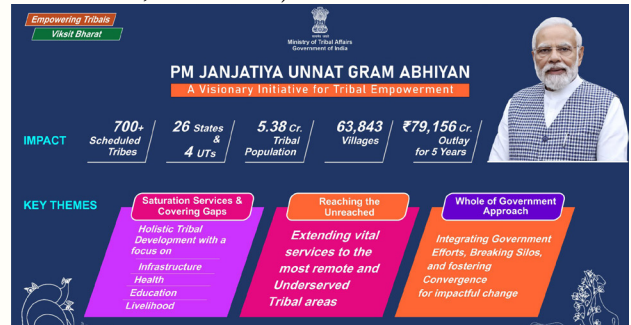
Goal II: Promotion of Economic Empowerment

➢ **Skill Development:** The initiative will provide training opportunities through the Skill India Mission and ensure ST youth have access to long-term skill courses after 10th and 12th grades. Additionally, support will be given through Tribal Multipurpose Marketing Centres (TMMCs), tourist home stays, and assistance in agriculture, animal husbandry, and fisheries for Forest Rights Act (FRA) Patta holders.

Goal III: Universal Access to Good Education

➢ **Education:** The aim is to raise the Gross Enrollment Ratio (GER) in schools and higher education to national levels and make quality education affordable for ST students. This includes establishing tribal hostels in schools at the district and block levels.

Goal IV: Healthy Lives and Dignified Aging

➢ **Health:** The program seeks to enhance access to quality healthcare for ST households, striving to meet national standards in Infant Mortality Rate (IMR), Maternal Mortality Rate (MMR), and immunization coverage. Mobile Medical Units will be deployed in areas where health sub-centers are more than 10 km away in plain areas and over 5 km in hilly areas.

➢ **Monitoring:** The tribal villages included in the initiative will be mapped on the PM Gati Shakti Portal, with specific gaps identified by the relevant departments. The physical and financial progress will be monitored on this platform, and the best-performing districts will receive awards

Schemes introduced by Pradhan Mantri Janjatiya Unnat Gram Abhiyan:

➢ Based on the specific needs and requirement of tribal areas and after deliberation with the States and other stakeholders, the Abhiyan has conceived

some innovative schemes to promote livelihood and generate income amongst tribal and forest dwelling communities.

➢ **Tribal Home Stay:** To leverage the tourism potential of tribal areas and provide alternative livelihoods to the community. Following are its aim:

» Promotion of 1,000 home stays under the Swadesh Darshan scheme through the Ministry of Tourism.

» In tourist potential villages, funding will be provided for the construction of 5-10 home stays.

» Each household can receive up to 5 lakh for constructing two new rooms and 3 lakh for renovating existing rooms, along with 5 lakh for village community needs.

Sustainable Livelihood for Forest Right Holders

➢ Aimed at the 22 lakh FRA patta holders in forest areas, it is convergence with various ministries, including Tribal Affairs, Agriculture, Animal Husbandry, Fisheries, and Panchayati Raj. It aims to:

» Expedite the recognition and securing of forest rights.

» Empower tribal communities for forest maintenance and conservation.

» Provide sustainable livelihoods through government schemes.

» Facilitate the swift processing of pending FRA claims and train stakeholders at the block, district, and state levels.

➢ **Improving Infrastructure of Government Residential Schools and Hostels:** Focuses on remote tribal areas to enhance educational resources and promote student enrollment and retention.

» Upgrade infrastructure of Ashram schools, hostels, tribal schools, and government residential schools to align with PM-Shri Schools.

➢ **Advanced Facilities for Diagnosis of Sickle Cell Disease (SCD):** Provide affordable and accessible diagnostic and management facilities for SCD, emphasizing prenatal diagnosis to reduce disease prevalence.

» Establish Centers of Competence (CoCs) in AIIMS and other premier institutes in states where SCD is common.

» Each CoC will be equipped with necessary facilities and technology for prenatal diagnosis, with a budget of 6 crore per CoC.

➢ **Tribal Multipurpose Marketing Centre (TMMC):** To enhance the marketing of tribal products and improve infrastructure for branding, packaging, and transportation.

» The TMMCs will serve as aggregation and value addition platforms, minimizing post-harvest and production losses while retaining product value.

Conclusion:

The PM Janjatiya Unnat Gram is a unique example of cooperative Federalism, whole of Government approach for welfare of the people saturation through convergence and outreach. It represents a comprehensive effort to empower tribal and forest-dwelling communities by addressing their specific needs through innovative schemes. By promoting sustainable livelihoods, enhancing educational infrastructure, improving healthcare facilities and facilitating effective marketing of tribal products, the initiative aims to create a holistic environment for growth and development.

Marital Rape

Why in News:

A bench of the Supreme Court, headed by Chief Justice D.Y. Chandrachud, has decided to hear the petitions regarding martial rape. The bench clarified that even if the central government has not responded, this is a legal matter that requires discussion. Senior advocate Indira Jaising had requested an expedited hearing, which was accepted.

What is Marital Rape?

➢ Marital rape refers to the situation where a husband engages in sexual relations with his wife without her consent. In India, marital rape is not legally recognized as a crime if the wife is over the age of 18. This implies that post-marriage, the husband is permitted to force sexual relations on his wife.

Legal Provisions:

➢ Currently, there is an exception under Section 375 of the Indian Penal Code (IPC), which states that if a husband forcibly has sexual relations with his wife, it is not considered rape. This exception is highly controversial among many women, as it deprives them of safety and justice.

Reasons Women May Not Speak Out:

➢ **Patriarchal Norms:** In society, marriage is often assumed to imply consent, making it difficult for victims to raise their voices.

➢ **Social Stigma:** Many women do not file complaints due to fear of family and societal backlash.

- **Lack of Data:** There are no official statistics on cases of marital rape.
- **Legal Ambiguity:** It is unclear what constitutes marital rape.

Past Rulings:

- Several important observations have been made on this issue. In 2022, the Delhi High Court declared marital rape unconstitutional, while the Karnataka High Court permitted the petitioner challenging it to approach the Supreme Court. Additionally, data from the National Family Health Survey (NFHS-5) indicates that over 29% of women in India face physical or sexual violence from their husbands.

Government Stance:

- The central government's position remains unclear. Solicitor General Tushar Mehta stated that this issue cannot be viewed solely from a legal perspective; social implications must also be considered. Some experts believe that if marital rape is recognized as a crime, it could threaten the institution of marriage.

Way Forward:

The Supreme Court now has to decide whether to bring marital rape under the purview of criminal law and whether to exempt husbands in such cases. The hearing of this matter could provide a new direction for the laws and society in the country, ensuring the rights and safety of women.

Supreme Court Ruling on Child Pornography

Why in News:

Supreme Court has held that viewing in private, downloading; storing, possessing, distributing or displaying pornographic acts involving children attract criminal liability under the Protection of Children from Sexual Offences Act (POCSO) and the Information Technology Act.

Observations made by the court:

- Viewing, downloading, storing, possessing, distributing, or displaying pornographic acts involving children constitutes criminal liability under:
  - » Protection of Children from Sexual Offences Act (POCSO).
  - » Information Technology Act.
- The court emphasized that the sexual act is only the beginning of a child's victimization. The recording and distribution of such acts perpetuate trauma, further exacerbating the psychological wounds.
- The Supreme Court urged Parliament to consider amending the POCSO Act to replace the term "child pornography" with "Child Sexual Exploitative and Abuse Material" (CSEAM).
- It also directed all courts to use the term CSEAM in judgments and orders to more accurately reflect the nature of these crimes.
- The court held that there is no distinction between viewing CSEAM and engaging in actual acts of child sexual abuse. Both actions share the same intent to exploit and degrade the child.
- This ruling originated from an appeal filed by the NGO, Just Right for Children Alliance, against a Madras High Court decision. The lower court had ruled that mere possession or storage of child pornographic material was not an offense under the POCSO Act.

Legal References:

- **POCSO Act, Section 15:** Criminalizes the storage and possession of child pornographic material.
- **Information Technology Act, Section 67B:** Penalizes the use, transmission, and publication of obscene materials, including child pornography, and criminalizes browsing or creating child exploitation materials.

About Child pornography:

- Child pornography refers to "any visual depiction of sexually explicit conduct involving a minor" (below 18 years of age). These depictions may be in various formats, including: Photographs, videos, digital images or videos, undeveloped film, computer-generated images that are indistinguishable from actual minors.
- According to the US-based National Centre for Missing and Exploited Children (NCMEC), India is the leading country in terms of online child sexual abuse material. Indian users uploaded around 25,000 images or videos related to child sexual abuse during the first half of 2024.
- Delhi ranks highest for the number of child pornography upload, followed by Maharashtra, Gujarat, Uttar Pradesh, and West Bengal.
- As per the National Crime Records Bureau (NCRB) report from 2018, India recorded 781 cases of creating or storing child pornographic material, with Odisha reporting the highest number of cases at 333.

The NCRB also estimates that a child is sexually abused every 15 minutes in India.

Conclusion:

Justice J.B. Pardiwala highlighted the need for legal language that reflects the reality of child exploitation and abuse. The ruling aims to strengthen legal frameworks protecting children from sexual exploitation and ensure accountability for all forms of involvement in such crimes. The ruling's call for changing terminology to "Child Sexual Exploitation and Abuse Material" (CSEAM) is a positive step. However, it should have extended this progressive thinking to ensure more nuanced and context-sensitive protections for children, recognizing the complexities of adolescent behavior and the need for effective victim support.

Culture of Adjournments

Why in News:

Recently, in an address, President Droupadi Murmu emphasized the urgent need to eliminate the culture of adjournments within India's judiciary. She compared the experience of navigating the judicial system to a "black coat syndrome," where individuals, particularly from rural areas, face delays and stress.

Causes of Pending Cases:

➤ **Shortage of Judges:** High courts have an average vacancy of 30%, and subordinate courts have 22% vacancies, leading to a severely understaffed system.

➤ **Frequent Adjournments:** Lawyers often exploit procedural delays, resulting in a backlog of cases and clogging the system.

➤ **High Volume of Government Cases:** A significant number of government cases contribute to delays, further straining judicial resources.

➤ **Procedural Complexities:** Judicial processes are complex and lengthy, causing delays in case resolution. This includes document verification, witness hearings, and legal claims processing.

➤ **Lack of Community Awareness:** In rural areas, people are often unaware of the judicial process and their rights, leading to inadequate legal assistance and pending cases.

➤ **Infrastructural Issues in Courts:** Many courts suffer from a lack of infrastructure, such as insufficient courtrooms, technical facilities, and manpower, which also delays hearings.

Proposed Solutions:

To address these challenges, President Murmu suggested several practical solutions:

➤ **Regular Conferences:** She proposed organizing the National Conference of the District Judiciary every two to three months to prioritize case pendency and foster collaboration among judicial officers.

➤ **Holistic Development:** Emphasizing the need for rapid development in all aspects of the judiciary, she called for improvements in administration, infrastructure, facilities, and human resources.

India's Judiciary

➤ India's judiciary is an independent and crucial institution established under the Constitution, with the primary aim of ensuring justice and upholding the rule of law.

Structure:

➤ **Supreme Court:** The Supreme Court of India, located in New Delhi, is the highest court in the country responsible for the interpretation and protection of the Constitution (Article 124).

➤ **High Courts:** Each state and union territory has high courts that hear appeals and cases within their jurisdiction (Article 214).

➤ **Subordinate Courts:** This includes district courts and other lower courts that hear civil and criminal cases.

Independence and Impartiality:

➤ The judiciary in India is independent of the executive and legislature under Article 50 of the Constitution, ensuring fair distribution of justice.

Judicial Review:

➤ A key function of the judiciary is to review laws passed by the legislature and orders issued by the executive to ensure they comply with the Constitution (Article 13).

Public Interest Litigations (PILs):

➤ The judiciary allows for public interest litigations, enabling matters to be raised in the interest of the general public (Article 32).

Conclusion:

India's judiciary is a vital pillar of democracy, playing a crucial role not only in delivering justice but also in upholding social justice, protecting human rights, and defending the Constitution. Continuous efforts should be made to reform and enhance the judicial process to ensure that every citizen receives timely and fair justice.
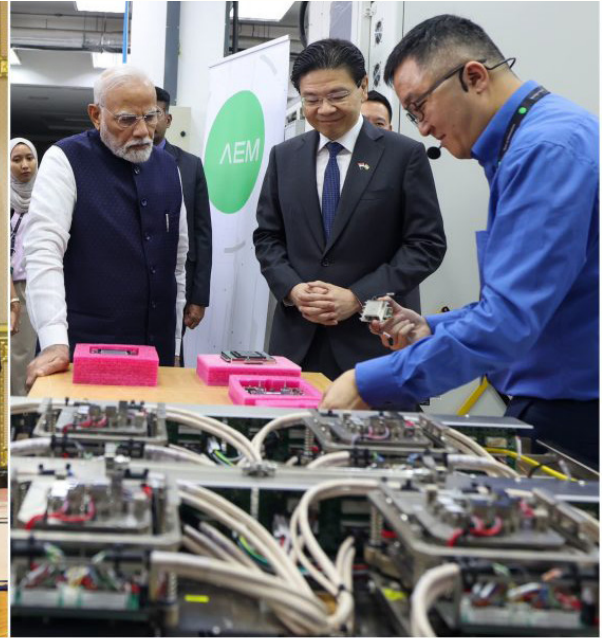
PM Modi's visit to Singapore-Brunei sharpens Act East Policy

Indian Prime Minister Narendra Modi has been emphasizing ASEAN-centric diplomacy due to the region's crucial role in the security of India's multidimensional interests. During his first tenure, the Look East Policy was transformed into the Act East Policy to foster deeper connections with ASEAN and Asia-Pacific countries, aiming for a more inclusive regional peace and security framework. Strengthening ties with ASEAN and Asia-Pacific nations has become essential for India's strategy in the Indo-Pacific, underscoring the need for robust connections in this critical region. India is therefore focused on strengthening bilateral relations with Southeast Asian countries that have historically received less attention. Brunei is one such nation where it took time for India to establish strategic diplomatic ties.

❖ Prime Minister Modi's visit to Brunei was aimed at strengthening bilateral ties, followed by a significant trip to Singapore. These visits are likely to have heightened tensions with China, which is keen on expanding its influence in Southeast Asia. During the Singapore visit, several key agreements were signed, covering areas such as skill development, digital technology, semiconductors, and AI cooperation, further solidifying the partnership between the two countries. PM Modi's statement that "Singapore is also an important country for India's Act East policy" underscores the strategic importance of this alliance and is likely to be a source of concern for China.

❖ China's aggressive attempts to dominate territories in the Indo-Pacific region and ASEAN countries have made it essential for India to strengthen its engagement with Southeast Asian nations. In this context, Prime Minister Modi's visits to Singapore and Brunei were strategically significant. Brunei, which has its own disputes with China over the South China Sea, is seen as a potential ally in India's vision for a free and open Indo-Pacific. By redefining its relationship with Brunei, India aims to bolster its

Act East policy, furthering multiple strategic interests simultaneously.

Space cooperation between India and Brunei:

❖ Prime Minister Modi's visit to Brunei is historic in several ways. It marks the first bilateral visit by an Indian Prime Minister to the country. This year, India and Brunei are celebrating the 40th anniversary of their diplomatic relations. During the visit, both nations elevated their relationship to an Enhanced Partnership. Given India's emphasis on strategic partnerships with ASEAN and its member states, it is now focusing on exploring new opportunities in areas such as defense, space and science and technology with countries like Brunei. The three MoUs signed during Modi's visit include collaboration on operating a TT&C (Telemetry, Tracking, and Command) Center for Satellite and Launch Vehicle operations, as well as cooperation in space research, science, and applications.

© Encyclopædia Britannica, Inc.

❖ Brunei, though a small nation, is strategically located on the island of Borneo in Southeast Asia. Its proximity to the equator makes it an ideal site for satellite ground stations and space surveillance infrastructure. Equatorial locations are advantageous for launching and monitoring geostationary satellites, which orbit along the equatorial plane, providing stable and continuous coverage of specific regions. Ground stations near the equator can communicate more effectively with these satellites, enhancing tracking, data reception and control. Brunei's location also holds promise for future spaceport development,

especially for launching rockets into geostationary and polar orbits. Launching rockets close to the equator requires less fuel due to the Earth's rotational velocity, making it a cost-effective option. Although Brunei has not yet developed such infrastructure, its political stability, open economy, and willingness to engage in international partnerships position it as a strong candidate for future spaceport investments.

HIGHLIGHTS OF PM'S VISIT TO BRUNEI

Prime Minister visiting Brunei on September 3rd and 4th at the invitation of Brunei's Sultan Haji Hassanal Bolkiah.

This is the first-ever bilateral visit by an Indian Prime Minister to Brunei.

The visit coincides with the 40th anniversary of the establishment of diplomatic ties between India and Brunei.

India shares warm and friendly relations with Brunei, covering multiple areas such as defense, trade and investment, energy, space technology, health, capacity building, culture, and vibrant people-to-people exchanges.

The Indian diaspora in Brunei numbers about 14,000, comprising a substantial number of doctors and teachers.

India has received valuable support from Brunei in its space program.

Brunei is an important partner in India's 'Act East' Policy and its vision for the Indo-Pacific.

❖ India and Brunei signed a bilateral agreement in August 1997 to establish the Indian Space Research Organisation (ISRO) TT&C station in Brunei. It was established in the year 2000 and has been operational since then. Another MoU was signed in New Delhi in July 2018, which allows India to operate, maintain and enhance a ground station to support space launches and satellite operations. In return, India will share its experience and expertise in space activities through training of Brunei officials, scientists and engineers on space and satellite technology implications. The agreement is seen as a major win for New Delhi as the emerging Indo-Pacific alliance called QUAD, comprising India, the US, Japan and Australia, takes a major step in the face of Chinese hegemony in the region.

India's emphasis on ASEAN centrality:

❖ During his visit to Brunei and Singapore, PM Modi emphasized India's commitment to cooperation and a rules-based order in the Indo-Pacific region. He stated that India advocates a developmental approach rather than an expansionist one. Modi highlighted Brunei's role as an important partner in India's Act East Policy and Indo-Pacific Vision, reaffirming India's priority on ASEAN centrality. He reiterated India's support for freedom of navigation and overflights under international laws like UNCLOS, and endorsed the need for a code of conduct in the

region. India, he stressed, is committed to a policy of development, not expansionism.

India's special relation with Singapore:

❖ Singapore is a key economic partner for India, with investments amounting to approximately $160 billion in the Indian economy. The two nations share a strategic partnership, and during PM Modi's recent visit, it was decided to elevate this relationship to a Comprehensive Strategic Partnership, further strengthening India's Act East policy. This enhanced partnership is expected to significantly bolster cooperation on Indo-Pacific security issues. While reviewing the robust progress in economic relations, both sides have expressed a commitment to further increase trade and investment flows. Singapore's potential as a strong naval ally is also noteworthy, given its strategic Changi Port, which holds significant importance for India's maritime interests.

HIGHLIGHTS OF PM'S VISIT TO SINGAPORE

PM will visit Singapore in the second leg of his two nation tour on 4th & 5th September on the invitation of his counterpart, Lawrence Wong

PM Modi is visiting Singapore after nearly six years.

It is an important moment to set the stage for the next phase of the India-Singapore relationship time when a new leader in Singapore has taken office.

PM will hold talks with President Tharman Shanmugaratnam Prime Minister Lawrence Wong, Senior Minister Lee Hsien Loong and Emeritus Senior Minister Goh Chok Tong.

Singapore is India's largest trade partner in ASEAN and a leading source of foreign direct investment.

❖ During his visit to Singapore, Prime Minister Modi also discussed plans to celebrate the 60th anniversary of bilateral relations between India and Singapore in 2025. Highlighting the importance of cultural ties, he announced the opening of India's first Tiruvalluvar Cultural Center in Singapore. The two leaders exchanged views on key regional and global issues of mutual interest, including India-ASEAN relations and India's Indo-Pacific vision. Modi emphasized various initiatives aimed at enhancing India's participation in global value chains, such as the Production Linked Incentive Scheme, the India Semiconductor Mission, and the development of 12 new industrial smart cities. The two countries also exchanged MoUs focused on cooperation in semiconductors, digital technology, skill development, and healthcare. These agreements reflect the outcomes of discussions held during the India-Singapore Ministerial Roundtable meetings, which have taken place twice so far.

Intent to strengthen Act East Policy:

❖ The Act East Policy focuses on strengthening India's extended neighborhood in the Indo-Pacific region, with ASEAN at its core. It aims to foster economic cooperation, cultural ties, and strategic relations with countries in the Indo-Pacific through sustained engagement at bilateral, regional, and multilateral levels. This approach seeks to enhance connectivity in its broadest sense, encompassing political, economic, cultural, and people-to-people interactions. Complementing this, the Neighbourhood First Policy emphasizes development cooperation as a key component of India's relationship with its neighboring countries. This policy prioritizes strengthening bilateral relations in all areas of socio-economic development, including trade and connectivity, with a special focus on promoting comprehensive and mutually beneficial partnerships.

❖ India has consistently engaged with ASEAN countries as long-term development partners, tailoring its assistance to meet the specific needs of each country. India is prepared to act on all technically and financially feasible requests from these nations. The primary instruments of India's development assistance include lines of credit (LOC), grant aid, High Impact Community Development Projects (HICDPs), technical consultancy, disaster relief and humanitarian assistance, and capacity-building programs under the Indian Technical and Economic Cooperation (ITEC) initiative. This multifaceted approach ensures that India's support is both comprehensive and responsive to the developmental priorities of its ASEAN partners.

Short Issues

INDUS-X Summit

Why in News:

Third INDUS-X Summit was successfully held in California, emphasizing collaboration in defense innovation between India and the United States. This summit took place on September 9-10, 2024, and was jointly organized by the U.S.-India Strategic Partnership Forum (USISPF) and Stanford University.

Key Announcements of the Summit:

➢ During the summit, a Memorandum of Understanding was signed between India's Innovations for Defence Excellence (iDEX) and the U.S. Department of Defense's Defense Innovation Unit. The aim of this agreement is to enhance cooperation in defense innovation.

➢ The summit also discussed technology trends, startup capacity building, and funding opportunities for defense innovations, showcasing the commitment of both countries to advance defense technology.

➢ Additionally, an official INDUS-X webpage was launched on the websites of iDEX and DIU.

About Innovations for Defence Excellence:

➢ iDEX was initiated by the Ministry of Defence in April 2018. Its primary goal is to facilitate the rapid development of new, indigenous and innovative technologies in the Indian defense and aerospace sector. To achieve this, it promotes collaboration with startups, innovators, MSMEs, incubators, and academia.

➢ iDEX provides grants, funding and support for research and development projects. Under this scheme, approximately 300 MSMEs and startups have received financial assistance through the Defence Innovation Organisation.

About the India-U.S. Defence Acceleration Ecosystem (INDUS-X):

➢ INDUS-X was launched on June 21, 2023. It is a sub-plan under Innovations for Defence Excellence (iDEX) in collaboration with the U.S. Department of Defense. Its purpose is to enhance military industrial cooperation and strategic technological partnerships between U.S. and Indian companies, governments, and academic institutions. Since its inception, there has been a notable increase in bilateral defense technology investment, research, and industrial partnerships.

Core Mechanisms of INDUS-X:

➢ INDUS-X includes the following three core mechanisms:
  » Bridging Information Gaps: It clarifies business opportunities for investors and startups and simplifies acquisition processes.
  » Building Networks: INDUS-X connects private investors and laboratories with startups and engineers, fostering collaboration.
  » Reducing Regulatory Stress: By linking government and private sectors, INDUS-X helps mitigate regulatory challenges.

Conclusion:

The INDUS-X Summit is a significant step in strengthening cooperation in defense innovation between India and the United States. It will not only promote technological development but also enhance global security.

Iran-U.S. Relations

Why in News:

Ayatollah Ali Khamenei, Iran's Supreme Leader has signalled a potential shift toward dialogue with the United States. This marks a significant change in a relationship

historically marked by conflict and mistrust.

Overview of Iran-U.S. Relations:

➢ **Mid-20th Century Development:** Relations between Iran and the United States began to develop in the mid-20th century.

➢ **1953 Coup:** A CIA-backed coup in 1953 drastically altered the trajectory of these relations by removing Prime Minister Mohammad Mossadegh and reinstating Shah Mohammad Reza Pahlavi, a staunch ally of the U.S. Over time, widespread opposition to the Shah grew throughout Iran.

1979 Revolution and Hostage Crisis:

➢ The Iranian Revolution of 1979, led by Ayatollah Ruhollah Khomeini, overthrew the Shah and established the Islamic Republic.

➢ From 1979 to 1981, Iranian students seized the U.S. embassy, holding 52 American diplomats hostage for 444 days.

Iran-Iraq War and U.S. Sanctions:

➢ The Iran-Iraq War in the 1980s further complicated U.S.-Iran relations, with the U.S. supporting Iraq, exacerbating tensions.

➢ Post-war, the U.S. maintained economic sanctions against Iran, citing concerns over terrorism and the development of weapons of mass destruction.

2000s: Diplomatic Efforts and Failures:

➢ In 2006, direct talks began between the U.S. and Iran regarding its nuclear program, culminating in the Joint Comprehensive Plan of Action (JCPOA) in 2015.

➢ The JCPOA was signed on July 14, 2015, by Iran and six major world powers (U.S., U.K., France, Russia, China and Germany) to ensure Iran's nuclear program remain peaceful and address international concerns through dialogue.

➢ President Donald Trump's withdrawal from the JCPOA in 2018 heightened tensions further.

Conclusion:

Khamenei's recent comments indicate a potential shift toward dialogue with the U.S., emerging amid domestic economic challenges and regional pressures. This could signify a move to address Iran's international isolation and economic troubles. Such a new stance may have significant implications for regional dynamics and global geopolitics, presenting a glimmer of hope for renewed negotiations.

Asia-Pacific Ministerial Conference

Why the News:

On September 12, 2024, PM Narendra Modi announced the unanimous adoption of the Delhi Declaration at the second Asia-Pacific Ministerial Conference on civil aviation held in New Delhi. This conference was attended by ministers and policymakers from 29 countries.

Key Announcements from the Conference:

➢ **International Buddhist Circuit:** A proposal for an international Buddhist circuit has been put forward to enhance regional tourism and connectivity. This initiative will not only promote cultural richness but will also aid in economic development.

➢ **Airport Goals:** India has set an ambitious target of establishing 350-400 airports by 2047. This will not only increase India's presence in the civil aviation sector but will also simplify travel at both local and international levels.

➢ **Support for Small Countries:** A Pacific Small Island Developing States Contact Office will be established to assist in managing aviation challenges. This office will provide technical and operational support to small nations.

➢ **Green Initiatives:** The 'One Tree in Mother's Name' campaign aims to plant 80,000 trees, along with announced plans focused on green aviation and sustainability.

Importance of the Delhi Declaration:

➢ The Delhi Declaration marks a significant step towards strengthening regional cooperation in civil aviation within the Asia-Pacific region.

➢ It focuses on sustainability, green aviation, and security, addressing the critical challenges currently faced by the aviation industry. Initiatives like the International Buddhist Circuit will improve connectivity, thereby boosting economic prosperity.

Civil Aviation Sector in India:

➢ India is the third-largest domestic aviation market globally and is expected to grow further by 2025. The civil aviation sector is expanding through key government initiatives such as the UDAN scheme, the PM Gati Shakti scheme, and NCAP 2016.

➢ Currently, with 136 operational airports and plans for 100 new ones, the government is focusing on modernizing infrastructure and enhancing regional connectivity.

About the International Civil Aviation Organization (ICAO):

➤ ICAO was established in 1947 under the Chicago Convention, and its headquarters are in Montreal, Canada.

➤ Its purpose is to ensure safe and efficient international air transport, set standards for aviation safety and environmental performance, and facilitate cooperation and discussions among its 193 member countries.

Conclusion:

The Delhi Declaration adopted at the second Asia-Pacific Ministerial Conference is a crucial step toward fostering new cooperation and development opportunities in the civil aviation sector. It will further strengthen India's position in the global aviation industry while promoting stability and growth in the Asia-Pacific region.

India-Gulf Cooperation Council Meeting

Why in News:

During the first India-GCC Joint Ministerial Meeting for Strategic Dialogue, held in Riyadh on September 9, the two sides emphasised on the significance of bolstering cooperation across various sectors, including trade, investments, energy, infrastructure, and healthcare.

Key Outcomes of the Meeting:

➤ **Joint Action Plan 2024-2028:** This plan includes joint activities in areas such as health, trade, security, agriculture, food security, transportation, energy and culture. There was agreement on including new areas in the future, which will further enhance cooperation.

➤ **Call for Ceasefire in Gaza:** The Indian Foreign Minister reiterated India's principled stance on the Palestinian issue, condemning terrorism and hostage-taking. He supported the two-state solution and humanitarian relations, sending a message of peace to the international community.

➤ **Strengthening India-GCC Relations:** A framework for a partnership based on "People, Prosperity, and Progress" (3Ps) was presented. This framework highlights the growing possibilities for cooperation in economics, energy, defense, technology, education, and public relations.

About the Gulf Cooperation Council (GCC):

➤ The GCC is a political and economic alliance that includes Saudi Arabia, Kuwait, the United Arab Emirates, Qatar, Bahrain, and Oman.

➤ It was established in May 1981 in Riyadh, Saudi Arabia, with the main objective of promoting unity among its members.

About India-GCC Relations:

➤ The first political dialogue between India and the Gulf countries took place on September 26, 2003, during the United Nations General Assembly.

➤ Bilateral trade between India and the GCC exceeds $100 billion. In 2023-24, this trade reached $161.59 billion, with Indian exports at $56.3 billion and imports at $105.3 billion.

➤ The UAE is the 7th largest source of Foreign Direct Investment (FDI) in India, with key trading partners being the UAE ($83.6 billion) and Saudi Arabia ($42.9 billion).

➤ Approximately 8.9 million Indian expatriates (66% of NRIs) reside in GCC countries, with remittances from the GCC region accounting for about 30% (2020-21).

➤ India has increased its naval presence in the Gulf region to enhance maritime security and combat piracy and terrorism. The security of the Hormuz Strait is particularly crucial for India.

➤ Currently, India has strategic partnerships with Saudi Arabia, the UAE, and Oman.

Conclusion:

The growing trade relations and energy cooperation between India and the Gulf countries are proving beneficial

for both sides. This meeting not only aims to give new direction to existing relations but also promotes regional stability and security. Thus, the India-Gulf Cooperation Council meeting has laid a solid foundation for future collaboration that will be advantageous for both parties.

FATF's Mutual Evaluation Report on India

Why in News:

Financial Action Task Force (FATF) has released its mutual evaluation report on India. The report states that India has taken significant steps to combat illegal financing; however, improvements are needed in the system to protect the beneficial sector from terrorist misuse.

Achievements in Technical Compliance:

➢ India is the only major economy placed in FATF's "Regular Follow-Up" category. To remain in this category, India was required to comply with more than 32 out of 40 recommendations. India has achieved compliance with 37 recommendations, including all of the 'Big Five' recommendations.

Significant Initiatives of India:

➢ FATF praised India's Jan Dhan-Aadhaar-Mobile (JAM) initiative, which has promoted financial inclusion. Additionally, the mandatory e-invoicing and e-billing under the Goods and Services Tax (GST) have increased transparency in the supply chain.

Improvements in Investigative and Legal Framework:

➢ The report emphasized the need to establish high-level committees and task forces to address issues like corruption, black money, drug trafficking, and counterfeit currency. FATF also acknowledged the achievements of the Enforcement Directorate (ED), which seized assets worth 16,537 crores between 2018 and October 2023.

Terrorism:

➢ The report noted that India faces serious threats from terrorism and terrorist financing, including groups like ISIS and Al-Qaeda. The National Investigation Agency (NIA) and ED have conducted effective investigations into terrorism-related cases, with emphasis on making these efforts even more effective.

About the Financial Action Task Force

➢ **Establishment:** FATF was established in 1989 by the Organisation for Economic Co-operation and Development (OECD).

➢ **Objective:** To develop and implement international policies and standards to combat money laundering and terrorist financing.

➢ **Member Countries:** FATF includes 39 member countries and regional organizations collaborating in the fight against money laundering globally.

➢ **Recommendations:** FATF has developed 40 recommendations guiding countries to take effective measures against money laundering and terrorist financing.

➢ **Evaluation Process:** FATF conducts mutual evaluations of member countries to assess the effectiveness of their policies and procedures.

Conclusion:

FATF's recognition of India in the "Regular Follow-Up" category will enhance India's international financial standing, likely increasing foreign investment and improving access to global financial markets. Additionally, there is a need for expedited resolution of pending money laundering cases and improvements in the beneficial sector.

Pact for the Future

Why in News:

The United Nations General Assembly has adopted the 'Pact of the Future', pledging to reform the United Nations Security Council (UNSC) to better reflect the realities of the modern world. This initiative aims to make the UNSC more representative and address historical imbalances in global representation.

Key Points of the 'Pact of the Future':

World leaders committed to several significant changes, including:

➢ The Pact calls for correcting historical injustices, particularly against Africa, by increasing representation for under-represented regions such as Africa, Asia-Pacific, Latin America, and the Caribbean.

➢ The UNSC must expand to reflect the current UN membership and accommodate the global landscape of the 21st century.

The Need for UN Reforms:

➢ When the UN was founded in 1945, 22% of member states were represented on the Security Council (11 out of 51). Today, only 8% of the UN's 193 members

are represented on the Council.

Financial Contributions:
➤ Nations like Japan and Germany contribute more to the UN budget than four of the five permanent members but do not have permanent representation.
➤ The UNSC often fails to maintain international peace, especially when a P5 member uses its veto power to block resolutions, such as Russia's vetoes related to the Ukraine conflict.

Imbalance of Power:
➤ Europe, which accounts for only 5% of the global population, holds 33% of the permanent seats on the Council, creating disproportionate representation.
➤ Despite its significant global influence, large population, and contributions to international peacekeeping, India remains underrepresented in the Security Council.

Challenges:
➤ **Lack of Political Will:** While there is broad agreement on the need for UNSC reform, member states differ on what specific reforms should be implemented.
➤ **The Coffee Club (Uniting for Consensus):** This group, led by Italy, opposes the expansion of permanent seats and is working to counter the efforts of the G4 nations (Brazil, Germany, India, and Japan), who are pushing for permanent seats.
➤ **Chinese Opposition:** As a permanent member of the UNSC, China has consistently blocked India's bid for a permanent seat, complicating reform efforts.

India's standpoint for a Permanent Seat:
➤ India has long sought a permanent seat on the Security Council to better advocate for the interests of the developing world. With increasing global support, India's campaign for a permanent seat has gained momentum, driven by its growing economic and political influence and its longstanding contributions to peacekeeping efforts.

Conclusion:
The 'Pact of the Future' represents a critical step towards transforming the UNSC into a more representative and equitable body that can effectively address the challenges of today's world. However, significant political challenges remain, as countries differ on the details of the proposed reforms. India, in particular, continues to seek permanent membership to better reflect its status on the global stage.

Israel-Hezbollah Conflict

Why in News:
Tensions in West Asia have spiked afresh after pagers and hand-held radios exploded in two days of coordinated attacks across Lebanon and parts of Syria. Hezbollah, the Iranian-backed Lebanese political party and militant group, has accused Israel of carrying out the attacks, which the Israelis have neither owned nor disowned.

Challenges ahead for India in Middle East amid Israel-Hezbollah Escalation:

Chabahar Port:
➤ The Chabahar Port is crucial for India's direct access to Afghanistan and Central Asia. If the conflict escalate and draw in Iran (a close ally of Hezbollah), India's operations at Chabahar could be at risk.
➤ Increased instability in the Middle East due to the Hezbollah-Israel conflict could disrupt maritime trade routes, heightening risks in the Strait of Hormuz and the Arabian Sea.

Areas targeted in Israel-Hezbollah conflict
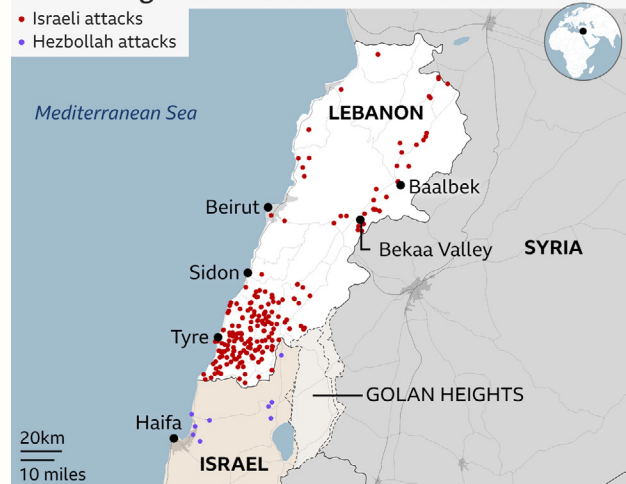
India Middle East Economic Corridor (IMEC):
➤ Rising tensions between Hezbollah and Israel could create broader regional instability, putting the corridor's security at risk. An escalation in the conflict could hinder the progress of infrastructure development related to the IMEC, including ports, railways, and pipelines throughout the Middle East.
➤ With close ties to Israel and strong relations with several Arab countries and Iran, India may face a delicate diplomatic balancing act that could impact its broader strategic goals.

Economic & Strategic Consequences:

➢ A prolonged conflict could destabilise the Middle East, a region critical to India's energy needs and economic interests, including investments in infrastructure and trade. The conflict could lead to volatility in global oil prices.

Migration & Refugee Issues:

➢ An escalation could lead to a refugee crisis, where a large Indian diaspora resides. If the situation worsens, India may have to initiate another evacuation plan as it did in Afghanistan, Russia-Ukraine and other situations impacting the security of Indians in conflict zones.

Forigen Remittances:

➢ About 9 million Indians live and work in the region. These people are often the sole breadwinners of their families, and the largest source of remittances to India. New Delhi would be worried for their safety and security.

Way Forward:

Any escalation between Israel and Hezbollah will mean Iran will be part of the conflict, which could draw in the United States. This could present New Delhi with a far more complex diplomatic challenge.

Asia Power Report 2024

Why in News:

According to the latest Asia Power Report from Australia's Lowy Institute, India has made significant strides, overtaking Japan to become Asia's third most powerful country. This comprehensive ranking evaluates national power based on economic relationships, military capabilities, cultural influence, and political resilience.

Key Factors Behind India's Rise:

➢ **Economic Growth:** India has shown post-pandemic economic recovery, contributing to a 4.2-point rise in its Economic Capability. India's massive population and strong GDP growth reinforced its standing as the world's third-largest economy in PPP terms.

➢ **Future Potential:** India's Future Resources score increased by 8.2 points, signalling a potential demographic dividend. Unlike its regional competitors, particularly China and Japan, India benefits from a youthful population, that will continue to drive economic growth and labour force expansion in the coming decades.

➢ **Diplomatic Influence:** India's non-aligned strategic posture has allowed New Delhi to navigate complex international waters effectively. It noted that in 2023, India ranked sixth in terms of diplomatic dialogues, reflecting its active engagement in multilateral forums.

➢ **Cultural Influence:** India's large population and economic capabilities offer substantial promise. India's score in cultural influence has also remained relatively strong, underpinned by its global diaspora and cultural exports.

➢ **Multilateral Diplomacy:** India's role in multilateral diplomacy and security cooperation has been emphasized. India's participation in dialogues and leadership in the Quad has allowed it to play a significant role in regional security dynamics, albeit outside of formal military alliances.

➢ **Economic Outreach:** India's economic outreach, though limited, has seen incremental improvements, particularly in defence sales, such as the BrahMos missile deal with the Philippines. It added that these small developments suggest that "India is beginning to flex its geopolitical muscles beyond its immediate neighbourhood.

COMPREHENSIVE POWER

GROUPING	RANK	COUNTRY/TERRITORY	SCORE	TREND
Superpowers ≥ 70 points	1	United States	81.7	↗
	2	China	72.7	↗
Middle powers ≥ 10 points	+1 3	India	39.1	↗
	-1 4	Japan	38.9	↗
	+1 5	Australia	31.9	↗
	-1 6	Russia	31.1	↘
	7	South Korea	31.0	↗
	8	Singapore	26.4	↗
	9	Indonesia	22.3	↗
	10	Thailand	19.8	↗
	11	Malaysia	19.6	↗
	12	Vietnam	18.7	↗
	13	New Zealand	16.3	↘
	14	Taiwan	16.0	↗
	+1 15	Philippines	14.7	↗
	-1 16	Pakistan	14.6	↗
	17	North Korea	11.3	↗
	18	Brunei	10.2	↗
Minor powers < 10 points	+1 19	Cambodia	9.5	↗
	-1 20	Bangladesh	9.4	↗
	21	Sri Lanka	7.7	↗
	+1 22	Laos	7.0	↗
	-1 23	Myanmar	6.7	↘
	24	Mongolia	5.2	↗
	25	Nepal	4.8	↗
	26	Timor-Leste	4.3	NEW
	-1 27	Papua New Guinea	4.2	↗

Legend: UPWARD DOWNWARD NO CHANGE

GREATEST GAINS
Indonesia +2.9
India +2.8
Philippines +2.0

GREATEST LOSSES
Myanmar −0.8
New Zealand −0.6
Russia −0.4

Annual change in ranking Trends track annual changes in scores above a minimum threshold (≥ 0.15)

Source: Asia Power Index 2024

India's Role in Asia:

➢ The 2024 Asia Power Index shows India as a "power

to reckon with in Asia", with "immense potential for future growth".

➤ The outlook for India is optimistic. With continued economic growth and a burgeoning workforce, India is well-positioned to expand its influence in the years ahead.

Way Forward:

In summary, while the Asia Power Index reveals promising advancements for India in terms of economic and diplomatic influence, it underscores the need for the country to strengthen its economic ties and defense collaborations to fully realize its potential as a leading power in Asia.

Forum on China-Africa Cooperation

Why in News:

The 9th edition of the Forum on China-Africa Cooperation (FOCAC) summit was held in Beijing in September 2024. The summit's theme is "Joining Hands to Advance Modernization and Build a High-Level China-Africa Community with a Shared Future."

Key Outcome of The FOCAC Summit:

➤ Xi Jinping promised $51 billion in funds to African countries at the ninth edition of the Forum on China-Africa Cooperation (FOCAC).

➤ China will support 30 infrastructure projects across the continent, with 360 billion yuan ($50.7 billion) to be offered as financial assistance.

➤ The 2024 summit aimed to establish an action plan for enhanced Africa-China cooperation over the next three years, focusing on areas such as state governance, industrialization, and agricultural upgrades.

➤ The summit adopted the Beijing Declaration and the FOCAC-Beijing Action Plan (2025-27), focusing on deepening the China-Africa partnership.

India's Initiative for African Continent:

➤ India has already laid the groundwork for a robust partnership with Africa through initiatives like the India-Africa Forum Summit (IAFS), the CII-EXIM Bank Conclave, and the India Africa Defence Ministers Meeting.

➤ Expansion and modernisation of India's capacity-building programs in Africa, like the Indian Technical and Economic Cooperation (ITEC).

➤ Negotiating and implementing comprehensive economic partnership agreements with major African

regional blocs through platforms such as the African Continental Free Trade Area (AfCFTA).

➤ During India's 2023 G-20 presidency, India played an important role in the inclusion of the 55-nation African Union into the G20 group.

➤ After the G20 presidency India had hosted the third Voice of the Global South Summit (VOGSS), which sees the participation of all African countries.

Way Forward:

This cooperation forum comes at a crucial time when China, amid an economic slowdown, would seek to streamline its presence in Africa. While Western investment in Africa, particularly in sub-Saharan countries, remains dominated by mining, oil, gas and agriculture, Russia focuses on security services for its preferred regimes. India is leading the Global South in its emphasis on inclusive growth and global governance. Beijing is pitching for a broader economic vision.

6th Quad Summit

Why in News:

Recently, the 6th Quad Summit was held at Delaware in the United States. It was the 4th in-person Quad Leaders' Summit.

Highlights of the Summit:

➤ **Global Health Cooperation:** Quad Cancer Moonshot partnership launched to save lives in the Indo-Pacific region. Under this, India will provide $7.5 million worth of HPV sampling kits, detection kits and cervical cancer vaccines to countries in the Indo-Pacific.

➤ I**nfrastructure Development:** "The Quad Ports of the Future Partnership" will harness the Quad's expertise to support sustainable and resilient port infrastructure development across the Indo-Pacific, in collaboration with regional partners.

➤ **Semiconductor Supply Chains Network:** It will leverage the complementary strengths of Quad partners to enhance Quad resilience in a diverse and competitive market and semiconductor supply chains.

➤ **Reform Global Governance:** The urgent need to make the United Nations Security Council more represented, inclusive, transparent, efficient, effective, democratic and accountable was recognized.

➤ **Maritime Initiative:** It was agreed to launch a "Maritime Initiative for Training in the Indo-

Pacific" (MAITRI). India will host the first MAITRI workshop in 2025 (during India's Quad Presidency).

➢ **Technology Collaboration:** The Quad plans to expand support for ongoing Open RAN field trials in the Philippines and the Asia Open RAN Academy (AORA), building on the initial $8 million support provided by the United States and Japan earlier this year.

➢ **Cooperation in Investments and Partnerships:** The Quad Investors Network (QUIN) aims to accelerate investments in critical and emerging technologies in the Indo-Pacific region. This year, QUIN supported ten major strategic investments and partnerships in the Quad in critical minerals, renewable energy, cybersecurity, and aerospace sectors.

FACTS ABOUT QUAD

▪ Quadrilateral Security Dialogue (QUAD) was proposed by then Japanese PM Shinzo Abe in 2007 but fell in dormant for a decade.

▪ Resurrected in 2017 on the sidelines of ASEAN Summit.

▪ QUAD consists of four countries: India, Australia, Japan and the US.

▪ AIM: to support an open, free, and inclusive Indo-Pacific.

▪ PM Modi to participate in the 6th QUAD Summit, beginning past midnight, at Delawara, US.

▪ India's participation in the QUAD aligns with its "Act East" policy.

▪ India to host the QUAD Summit next year.

➢ **Climate Adaptation:** The United States plans to provide 3D-printed automated weather stations in the Pacific region in 2025 to support local weather and climate forecasts.

➢ **People-to-People Initiatives:** India announces a new initiative to award fifty Quad scholarships, worth $500,000, to students from the Indo-Pacific to pursue a 4-year undergraduate engineering program at a Government of India-funded technical institution.

Way Forward:

With enduring wars in Europe and the Middle East, China's belligerent activities in the Indo-Pacific region and emerging non-traditional security challenges in the region, the Quad had its task cut out. In many respects, the Quad already acts as a regional microcosm of these broader global aspirations, championing cooperation and stability in the Indo-Pacific.

India-UAE Cooperation

Why in News

India and the UAE have signed a Memorandum of Understanding (MoU) for the supply of liquefied natural gas (LNG) and civil nuclear cooperation. The meetings also covered UAE's participation in India's strategic petroleum reserves and the development and construction of a food park in the Gujarat region, promoting the use of artificial intelligence and extraction of critical minerals.

Key Points of Agreement Between the two Countries.

Liquefied natural gas agreement:

➢ The United Arab Emirates' Abu Dhabi National Oil Company (ADNOC), agreed with the Indian Oil Corporation Limited (IOCL) to supply more than one million metric tons per year of liquefied natural gas (LNG) for the next 15 years.

Civil nuclear cooperation:

➢ India and the UAE signed a Memorandum of Understanding (MoU) for civil nuclear cooperation between the Nuclear Power Corporation of India Limited (NPCIL) and the Emirates Nuclear Energy Company (ENEC)-led Barakah Nuclear Power Plant.

Strategic petroleum reserve agreements:
- ➢ In crude oil, the agreement between India Strategic Petroleum Reserve Limited (ISPRL) and ADNOC will make for the UAE government to increase its participation in India's oil storage drive, while keeping its existing contracts renewed, contributing to the country's energy security for the next 15 years.

Agreement of Food and Agro Park:
- ➢ ADQ Holding Company has signed a Memorandum of Understanding with the Indian Ministry of Food Processing to set up an agro and food processing industrial complex in Gujarat using advanced food processing technologies.

India- UAE Virtual Trade Corridor (VTC):
- ➢ During the visit, the Crown Prince participated in the India-UAE Business Forum in Mumbai, and the launch of preliminary work on the new India-UAE Virtual Trade Corridor (VTC) and the MAITRI interface to facilitate VTC.

Way Forward:
During Prime Minister Narendra Modi's visit to the UAE in August 2015, both nations agreed to collaborate on the peaceful use of nuclear energy. UN General Assembly Meeting (2022) Foreign Ministers from India, France, and the UAE met in New York to launch a" trilateral cooperation framework". Focus areas in this initiative aims to foster joint projects in energy sectors, particularly solar and nuclear energy.

Africa Urban Forum

Why in News:
Africa Urban Forum was convened in Addis Ababa, Ethiopia, bringing together key stakeholders from across the continent to advance the goals of Agenda. The event was convened by the Africa Union, the Government of Ethiopia, and UN-Habitat, among others, under the theme "Sustainable Urbanization for Africa's Transformation – Agenda 2063."

Objectives of the Forum:
- ➢ Raise the profile of urbanization as an imperative for sustainable and resilient development in Africa.
- ➢ Support inclusive and participatory human settlement development in Africa's structural transformation and attainment of Agenda 2063.
- ➢ Facilitate dialogues and buy in for sustainable urbanization among Africa's heads of state and Governments.

- ➢ Identify, discuss, and prioritize emerging and critical issues in inclusive and sustainable urban development from the perspective of different stakeholders.

- ➢ Exchange ideas, best practices and innovative approaches related to sustainable urbanization.
- ➢ Foster collaboration of different stakeholders at various levels to develop strategies, improve programme & project implementation outcomes, share resources, and build capacities.

Forums Theme:
The Forum is Structured Around Two Main Themes.
- ➢ **Financing Urbanization For Socioeconomic Transformation:**
  - » Rapid urbanization in Africa presents a significant financing challenge, requiring substantial investments in infrastructure, services, and social amenities to accommodate growing urban populations.
  - » Its aims to identify innovative options for financing urbanization, including public-private partnerships, development finance, and community-based financing models.
- ➢ **Resilient Urban Development in Africa:**
  - » As African cities continue to expand in the face of climate change, there is a growing recognition of the need to promote sustainable and resilient urban development practices that balance economic growth with environmental conservation and social inclusion.
  - » The Nairobi Declaration deriving from the Africa Climate Summit held in September 2023 in Nairobi recognized cities as hot spots for climate vulnerability, thus the nexus between urbanization and climate change.

Way Forward:
The Africa Urban Forum was held for African leaders to formulate strategies to build cities that are environmentally sustainable, socially inclusive and economically resilient. The three-day event aimed to develop strategies to address the challenges associated with rapid urbanisation in a continent of 1.5 billion people.

◆ 3 Environment

Global Environmental Challenges: The Role of Developed and Developing Nations' Policies

Environmental protection and sustainable development are among the world's most pressing needs. However, when it comes to taking decisive action in this direction, the commitment of developed countries often appears fragmented. There is a lack of consensus, and many tend to compromise global goals for the sake of their economic development. A recent example of this is the United Nations Ocean Treaty, which has been ratified by only seven countries: Palau, Chile, Belize, Seychelles, Mauritius, Monaco, and the Federated States of Micronesia. Despite widespread enthusiasm for ocean security, marine biodiversity conservation, and achieving sustainable development goals at the theoretical level, concrete action remains limited. To address issues like ocean pollution and protect marine areas from the effects of global warming, climate change, and weather phenomena such as El Niño and La Niña, coordinated efforts between the policies of developed and developing countries are essential.

Organizations with progressive standards, such as the European Union, claim to be considering joining treaties like the United Nations Ocean Treaty. However, they simultaneously show no hesitation in boosting profits through measures like imposing a carbon tax. Meanwhile, the United Nations Economic and Social Council has already reported that the Asia-Pacific region is 32 years behind in meeting the Sustainable Development Goals (SDGs) as of this year. This indicates that no region, whether Europe or Asia-Pacific, is on track to meet global environmental targets. There are increasing doubts about achieving the SDGs by 2030. At the same time, countries worldwide are turning to the e-vehicle revolution as a solution to climate change, yet little thought is given to how e-waste will be managed. Developed countries often shift the blame for environmental issues onto developing

nations, while developing countries seek to avoid certain environmental responsibilities, citing their emerging economies and right to development.

Differences on global environmental issues between developed and developing countries:

❖ There have been both differences and instances of cooperation between developed and developing countries on global environmental issues, particularly concerning biodiversity, global warming, climate change, ocean protection, plastic waste in oceans, wildlife smuggling and poaching, forest fires, the meat industry's impact on global warming, biofuel promotion, the destruction of the Amazon rainforest, and the existential threats faced by island nations. Disputes have frequently arisen during COP meetings under the United Nations Framework Convention on Climate Change, particularly on global warming and climate change. One of the most significant points of contention is the lack of commitment from

developed countries to transfer green technology to developing nations, small island states, or poorer countries to help them address climate change. On many occasions, developed nations have appeared reluctant to assist developing countries by transferring the necessary technologies.

❖ Apart from this, the developing countries have been demanding from the developed countries that green finance or financial system should be made available to them to deal with greenhouse gas emissions. For this, a proposal was also made to form a Green Climate Fund in Cancun in the year 2009 in which it was decided that the developed countries will create a fund with a certain amount which is now 100 billion dollars and will provide the necessary finance to the third world countries to deal with climate change. It is worth mentioning that in the Paris Agreement in the year 2015, there was also a talk of depositing 100 billion dollars in the Green Climate Fund and it was expected from the developed countries that they will provide finance to the developing countries from this Green Fund after 2020. The developed countries have not fulfilled any such commitment wholeheartedly; rather America has pulled out of the Paris Agreement, the biggest agreement on climate change in recent times. This also shows the mentality of the developed countries towards the developing countries. In 2013, an International Loss and Damage Mechanism was created to help small island countries that are most vulnerable to climate change and to deal with natural disasters. This decision was taken in Warsaw, the capital of Poland. In this too, developed countries were expected to cooperate to save the ocean system and lifestyle of small island countries, but in this fund too, developed countries have not ensured adequate flow of finance.

Developed countries: Not following CBDR principle:

❖ Developing countries, under the principle of Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC) within the UNFCCC framework, have called on developed nations to take on a greater role in addressing climate change and global warming. This principle emphasizes that developed countries, having historically contributed more to global warming through the Industrial Revolution, commercial expansion, and large-scale factory development

that relied heavily on burning fossil fuels, should bear a larger share of the responsibility in tackling these issues. Developing countries argue that since developed nations have historically emitted more greenhouse gases, they should bear a greater responsibility in addressing climate change. They are expected to lead in efforts to combat climate change due to their greater historical impact and capacity to address the crisis. In contrast, developing and poorer nations, whose contributions to global emissions have been significantly smaller, should have responsibilities proportionate to their role. Developing countries emphasize that, due to limited resources, finances, and technological capabilities, they are not in a position to independently implement large-scale projects or initiatives to combat global warming and climate change. Therefore, any pressure to reduce greenhouse gas emissions should take into account their capacities. Additionally, many developing countries are emerging economies with a heavy reliance on the transport sector, and undue pressure to reduce emissions could negatively impact their economic growth.

❖ The polluter pays principle, which is also a part of the Rio Declaration issued at the Earth Summit in 1992, has as its basic belief that the polluters should be given the most important role in dealing with pollution. It should not happen that a country, person or firm is promoting pollution, and the burden of dealing with it is unnecessarily put on some other weak country, person or firm. If this happens, it will be discriminatory and unjust. Developed countries have openly violated this principle and despite themselves spreading more pollution (China emits 27 percent greenhouse gases, America 21 percent and European Union 10 percent), more responsibility has been imposed on developing countries to deal with greenhouse gas emissions, which is also against the CBDR principle.

❖ The polluter pays principle was first proposed by the Organization for Economic Cooperation and Development (OECD) in 1972. The OECD gave it as a guiding principle related to the international economic dimensions of environmental policies. Later, this principle was proposed as the 16th principle out of the 26 principles of the Rio Declaration to regulate the relations between developed and developing countries in global environmental matters. It said

that the person who pollutes the environment should be responsible for paying or compensating for it.

China and Environmental Polarization:

❖ The world is also becoming bipolar on environmental issues like the climate crisis, which has pitted developed countries as culprits and developing countries as victims. Despite the fact that historically developed countries have been major emitters of carbon, China is now the largest carbon emitter. There have been many global conferences that have included issues of biodiversity from sea to land, but now every such conference has polarized between developed and developing countries, including China. China has started talking about the health of the earth and taking its responsibility for it. It wants to make itself a zero-carbon country by 2060. As an important member of the BASIC organization (Brazil, South Africa, India and China), China has started diplomacy to not let developed countries have their way on environmental issues.

Short Issues

Cascade Frog

Why in News:

The scientists from Wildlife Institute of India have discovered how Assam Cascade Frogs are impacted by water flow in Western Himalayan streams, sparking important conversations about sustainable water management and biodiversity conservation.

Background:

➤ To understand the intricate relationships between water quality and aquatic life, scientists from the Wildlife Institute of India (WII) conducted a pioneering study on Assam Cascade Frogs in the Churdhar Wildlife Sanctuary, Himachal Pradesh.

➤ Focusing on two Himalayan streams, the research aimed to investigate the correlation between various water parameters and the abundance and density of this endangered species.

About Cascade Frog (Amolops formosus):

➤ The Cascade Frog (Amolops formosus) is found in several regions of India, including Himachal Pradesh, Uttarakhand, Nagaland, Meghalaya, Arunachal Pradesh and Assam, as well as in Northern Bangladesh and much of Nepal.

➤ This species has a slender body and long legs, aiding in jumping and swimming and its earthy brown and green coloration provides effective camouflage. Some individuals may display light stripes or patterns. They thrive in hilly, forested areas near streams and waterfalls, where they lay their eggs.
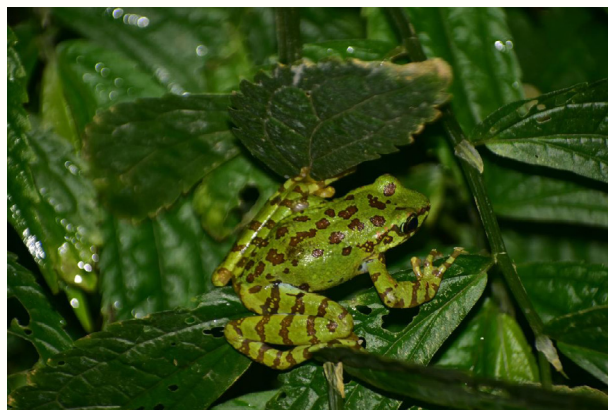
➤ Primarily nocturnal, Cascade Frogs are most active during the rainy season when water levels rise, feeding on insects and invertebrates.

➤ Conservation-wise, they are classified as Least Concern by the IUCN and are not listed under the Indian Wildlife Protection Act or CITES. However, major threats to their survival include habitat loss due to deforestation and alterations in water management, such as dam construction, which significantly impact their populations.

Namibia to Kill Hundreds of its Wild Animals for Meat

Why in News:

Namibia is planning to cull hundreds of wild animals, including elephants and hippopotamuses, to provide meat for its population of 1.4 million, nearly half of whom are suffering from the worst drought in a century.

More Details:

➤ The government has listed 723 animals for culling, including 30 hippopotamuses, 60 buffaloes, 50 impalas, 100 blue wildebeest, 300 zebras, 83 elephants and 100 elands (a type of antelope). So far, over 150 animals have been killed, producing around 63 tonnes of meat.

➤ The government justifies the cull as necessary and in line with its constitutional mandate to use natural resources for the benefit of Namibian citizens.

Reasons behind Drought in Namibia:

➤ Namibia, located in drought-prone southern Africa, has frequently experienced severe droughts, leading the country to declare national emergencies in 2013, 2016, and 2019.

➤ The current drought is largely due to the return of the El Niño weather pattern in 2023 after a seven-year hiatus.

➤ El Niño is associated with extreme heat and dry spells across many regions, and its resurgence has brought above-average temperatures and minimal rainfall to Namibia, causing severe soil moisture deficits and vegetation stress.

➤ Studies also show that rising global temperatures due to climate change are intensifying the frequency and severity of extreme weather events like droughts and floods.

Impact of Drought in Namibia:

On Food availability:

➤ Food availability in Namibia is typically low from July to September, but the current drought has significantly worsened the situation. Staple crops such as maize have dried up, and a large number of livestock have perished.

➤ Nearly 84% of the country's food reserves are exhausted. This depletion of food stocks has caused prices to skyrocket, making access to food increasingly difficult for many people.

On food Security:

➤ Between April and June 2024, it is estimated that around 1.2 million people in Namibia are facing severe levels of food insecurity. These individuals, particularly the most vulnerable in both urban and rural areas, urgently require assistance to bridge food gaps and sustain their livelihoods.

➤ The widespread nature of the crisis has exacerbated existing vulnerabilities, especially among children. Severe acute malnutrition has risen significantly among children under the age of five, and deaths have been reported in some regions.

Gender based Violence:

➤ The drought has also had a disproportionate impact on women and girls. As food and water become scarcer, they are forced to travel greater distances to gather these essentials. This increased burden raises their risk of exposure to gender-based violence, further highlighting the social consequences of the drought.

Need for the culling of wild animals:

➤ Namibia's decision to cull wild animals is not solely for meat production. The government is concerned that the ongoing drought will drive animals to migrate in search of food and water, potentially leading to conflicts with human populations.

➤ Namibia is home to a large wildlife population, including 24,000 elephants, one of the largest in the world.

➤ The culling will also alleviate the impact of the drought on wildlife by managing grazing pressure and water availability in parks and communal areas where animal numbers exceed the resources available.

Conclusion:

Wild animals of various species are hunted worldwide for food, sport, or trophies, including in southern Africa. In Namibia, animals like zebras, blue wildebeest, and impala, which are included in the current cull list, are commonly consumed by people in the region. As long as the harvesting of these animals is done using scientifically proven and sustainable methods that prioritize animal welfare and comply with both domestic and international laws, there should be no cause for concern.

Plastic Pollution

Why in News:

According to a new study published in Nature, India has been identified as the largest plastic polluter globally, releasing 9.3 million tonnes (Mt) of plastic waste annually.

Highlights of the Study:

- **Definition of Plastic Emissions:** The study defines plastic emissions as materials that have transitioned from a managed or mismanaged state to an unmanaged state (the environment).
- **Contribution to Global Emissions:** India's plastic pollution accounts for approximately one-fifth of global plastic emissions.
- **Waste Generation Rate:** India generates about 0.12 kilograms of waste per capita per day.
- **Global Plastic Waste Emissions (2020):** Total global plastic waste emissions were 52.1 million tonnes per year.
- **Sources of Emissions:** Littering is the largest emission source in the Global North, while uncollected waste is predominant in the Global South.
- **Other Major Polluters:** Nigeria (3.5 million tonnes) and Indonesia (3.4 million tonnes) are the 2nd and 3rd largest plastic polluters.
- **High-Income Countries:** These countries have higher plastic waste generation rates but generally have comprehensive collection and controlled disposal systems.

Top Plastic Polluters:

- India
- Nigeria
- Indonesia

Concerns regarding Plastic Pollution:

- **Decomposition Issues:** Plastics decompose slowly, breaking down into microplastics that spread globally.
- **Health Risks:** Chemicals like BPA in plastics can contaminate food and drinks, affecting liver function, fetal development, reproductive systems, and brain function.
- **Environmental Impact:** Plastic, being a petroleum product, contributes to global warming. Incineration releases toxic fumes and $CO2$.
- **Economic Costs:** Plastic pollution damages tourist destinations, leading to decreased tourism revenue and significant cleaning and maintenance costs.

Reasons for India's High Plastic Pollution:

- **Inadequate Waste Management:** Data from 2019-20 showed that 50% of plastic waste (34.7 lakh TPA) was unutilized, polluting air, water, and soil.
- **Data Gaps:** Inconsistencies and lack of data from state pollution control boards and urban local bodies hinder accurate assessment.
- **Recycling Inefficiencies:** The informal and unregulated recycling system results in low-quality recycled plastic and limited environmental benefits.

Top 10 plastic polluters ranked

1 Mt could fill
x 65 Taj Mahals
or
x 260,000 double decker buses

Measured in million tonnes (Mt) per year
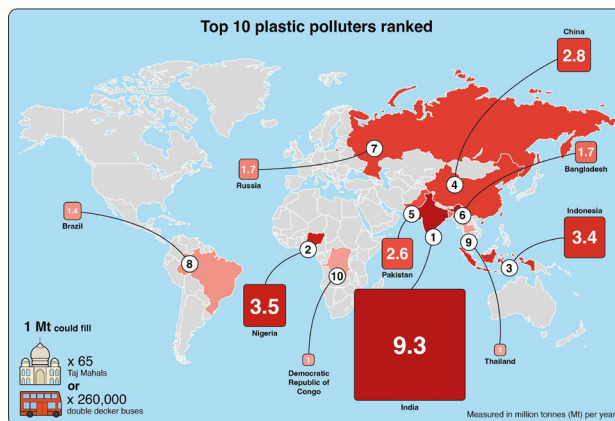
Global Efforts in Tackling Plastic Waste:

- **London Convention (1972):** Prevents marine pollution by dumping wastes and other matter.
- **Clean Seas Campaign (2017):** UN Environment Programme's campaign to raise awareness on plastic pollution and marine litter.
- **Basel Convention (2019):** Amended to include plastic waste as a regulated material, binding on 186 states.

India's Efforts in Tackling Plastic Waste:

- **Extended Producer Responsibility (EPR):** Plastic manufacturers are responsible for managing and disposing of their products' waste.
- **Plastic Waste Management (Amendment) Rules, 2022:** Bans plastic carry bags with thickness less than 120 microns.
- **Swachh Bharat Mission:** National cleanliness campaign including plastic waste collection and disposal.
- **Plastic Parks:** Specialized industrial zones for recycling and processing plastic waste.
- **Beach Clean-Up Drives:** Organized by the government and NGOs to remove plastic waste from beaches.

Way Forward:

To address the global plastic pollution crisis, a three-

pronged approach is necessary (i) increased public awareness and behavioral change regarding plastic use, (ii) improved institutional systems for collection, segregation, and recycling of plastic waste and (iii) a legally binding Global Plastics Treaty under UN Environment Assembly Resolution 5/14.

Monsoon Dynamics and Climate Impact

Why in News:

A study published in Remote Sensing of Environment in June by researchers from India's National Centre for Polar and Ocean Research (NCPOR) and South Korea's Korea Polar Research Institute highlights how Arctic sea ice affects the Indian monsoon.

About the Indian Summer Monsoon Rainfall (ISMR):

➢ The ISMR, occurring from July to September with peak rainfall in July and August, is one of the most significant monsoon systems globally.

➢ The process begins as the Central Asian and Indian landmass heat up more quickly than surrounding oceans, creating a low-pressure zone at the Tropic of Cancer.

➢ Trade winds from the southeast are deflected towards the Indian landmass due to the Coriolis force and low pressure, picking up moisture from the Arabian Sea and depositing it as rain over India.

➢ The monsoon splits into two arms: the Arabian Sea arm, which brings rain to the west coast, and the Bay of Bengal arm, which affects eastern and northeastern India.

The Complexity of ISMR:

➢ Recent climate models have shown that surface temperatures of the Indian, Atlantic, and Pacific Oceans, as well as large-scale atmospheric waves known as circum-global teleconnection (CGT), significantly influence the ISMR.

The Role of Arctic Sea Ice:

➢ **Central Arctic Sea Ice:** Lower sea ice levels here lead to reduced rainfall in western and peninsular India but increased rainfall in central and northern India. Increased sea ice can trigger cyclonic circulation and bolster Rossby waves, which affect atmospheric patterns and monsoon rainfall distribution.

➢ **Barents-Kara Sea Region:** Reduced sea ice levels in

this region can delay the monsoon onset and render it more unpredictable. It influences atmospheric pressure patterns, causing an anti-cyclonic circulation over northwest Europe and disturbances in the upper atmospheric region over Asia, leading to varying rainfall patterns across India.

Atmospheric Dynamics:

➢ **Rossby Waves:** Enhanced Rossby waves due to sea ice changes lead to high pressure over northwest India and low pressure over the Mediterranean, altering the Asian jet stream and affecting monsoon rainfall distribution.

➢ **Positive Arctic Oscillation:** Lower sea ice in the Barents-Kara Sea results in high pressure over the northern Atlantic and Pacific, impacting weather patterns and contributing to the monsoon's variability.

Climate Change and its Impact:

➢ The Connection between Climate Change and Monsoon Variability

➢ Climate change accelerates the reduction of Arctic sea ice, which in turn exacerbates the variability and unpredictability of the ISMR.

Conclusion:

The recent heavy rains and flooding in India highlight the critical need to address the complex interplay between climate change, Arctic sea ice dynamics and monsoon patterns. As the monsoon becomes increasingly unpredictable, understanding these influences is crucial for mitigating impacts and improving forecasting to better prepare for future climatic challenges.

Mission Mausam

Why in News:

The Union Cabinet has recently approved "Mission Mausam" which aims to improve the accuracy of forecasts and nowcasts. An outlay of Rs 2,000 crore has been kept for this mission for the next two years.

Components of the Mission:

➢ The mission aims to establish 50 Doppler Weather Radars (DWR), 60 Radio Sonde/Radio Wind (RS/RW) stations, 100 Disdrometers, 10 Wind Profilers, 25 Radiometers, 1 Urban Test Centre, 1 Process Test Centre, 1 Ocean Research Station and 10 Marine Automatic Weather Stations with upper air observation.

Objectives of "Mission Mausam":

➢ To develop state-of-the-art weather monitoring techniques and systems

➢ To implement high resolution atmospheric observations with improved temporal and spatial sampling/coverage

➢ To implement next generation radars and satellites with advanced instrument payloads

➢ To implement High Performance Computers (HPCs).

➢ Improve understanding of weather and climate processes and prediction capabilities

➢ Develop advanced Earth system models and data-driven methods (using AI/ML)

➢ Develop technologies for weather management

➢ Develop state-of-the-art dissemination systems for last-mile connectivity

MISSION MAUSAM

Cabinet approves 'Mission Mausam' to create a more weather-ready and climate-smart Bharat with an outlay of Rs.2,000 crore over 2 years

BENEFITS

❖ A multi-faceted and transformative initiative to tremendously boost India's weather and climate-related science, research and services

❖ Will help better equip stakeholders, including citizens and last-mile users, in tackling extreme weather events and the impacts of climate change

❖ Mission focus to include improving observations and understanding for providing highly accurate and timely weather and climate information across temporal and spatial scales

❖ Mission to be implemented by 3 institutes of the Ministry of Earth Sciences:
  • India Meteorological Department
  • Indian Institute of Tropical Meteorology
  • National Centre for Medium-Range Weather Forecasting

Implementation and support:

➢ The mission will be implemented by the India Meteorological Department (IMD), Indian Institute of Tropical Meteorology, and National Centre for Medium Range Weather Forecasting. All these institutes come under the Ministry of Earth Sciences (MoES).

➢ Additionally, the mission will also be supported by the Indian National Centre for Ocean Information Services, National Centre for Polar and Ocean Research, and National Institute of Ocean Technology.

Benefits of Mission Mausam

➢ **Accurate weather forecasting:** Under Mission Mausam, accurate weather forecasting will be done

through advanced radar, satellite and modeling techniques, providing advance information about extreme weather events.

➢ **Improvement in agriculture:** Accurate agricultural forecasting will help farmers make better decisions, leading to increased crop production and safety. It will also reduce losses caused by natural disasters.

➢ **Disaster Management:** Better monitoring of weather events and early warning systems will improve disaster management, allowing timely relief and rescue operations.

➢ **Tackling Climate Change:** By anticipating the impacts of climate change, Mission Mausam will prepare communities to cope with them, thereby promoting sustainable development.

➢ **Energy Management:** Appropriate weather forecasting will enable better management of energy resources, thereby maintaining a balance between energy availability and demand.

Conclusion:

The "Mission Mausam" approved by the Union Cabinet will ensure effective management of extreme weather events and impacts of climate change. It will not only improve agriculture, disaster management, and energy resource management, but will also enhance resilience of communities. Further, through encouraging technological development and research, the mission will enable India to tackle the impacts of climate change.

Voluntary Vehicle Modernization Program

Why in News:

The Ministry of Road Transport and Highways has launched the Voluntary Vehicle Modernization Program or Vehicle Scrapping Policy to create an ecosystem for phasing out unfit polluting vehicles across the country through a network of Registered Vehicle Scrapping Facilities (RVSFs) and Automated Testing Stations (ATSs).

The Numbers:

➢ Presently, there are sixty-plus (60+) RVSFs across 17 States / UTs and seventy-five (75+) ATSs across 12 States / UTs operational in the country with many more in the pipeline.

What is the vehicle scrapping policy?

➢ The Vehicle Scrappage Policy is a government-

funded programme to scrap old and unfit vehicles and replace them with modern and new vehicles on Indian roads. The primary goal of the policy is to create an ecosystem for phasing out unfit and polluting vehicles to achieve a lower carbon footprint in the country.

Voluntary Vehicle-Fleet Modernization Program (V-VMP):

➢ Private vehicles older than 20 years will be deregistered from June 1, 2024, if they fail the fitness test or their registration certificate is not renewed.
➢ Heavy commercial vehicles older than 15 years will be deregistered from April 1, 2023.
➢ Setting up of Registered Vehicle Scrapping Facility.
➢ Formalize vehicle scrapping industry and bring in more investment.
➢ While treating a vehicle as scrap, the policy considers age of the vehicle, its quality of brakes, engine.
➢ The programme into effect from April 1, 2022.

The Economics of Vehicle Scrapping:

➢ Scrapping can yield between 35,000 and 1,40,000 for four-wheelers, after accounting for scrapping costs and margins. For trucks, the returns can range from 21 lakh to 21.5 lakh, while two-wheelers can fetch up to 15,000 through the scrapping process.
➢ **Organized Scrapping:** Mahindra MMRPL procures obsolete vehicles and white goods from individuals, government-facilitated auctions, and insurance firms. Items unfit for recycling are disassembled, and the remaining metal scrap is shredded. Heavy-duty magnets are then used to separate ferrous metals like iron from non-ferrous metals such as aluminum and copper. The sorted ferrous, non-ferrous, and other remaining parts are sold through an e-commerce portal.
➢ **Unorganized Scrapping:** Unorganized scrapping represents a large market where vehicles are often just disassembled and not recycled at the source. Instead, they are typically sold to scrap dealers, with some ending up in dump yards.
➢ **Abandoned Vehicles**: There is currently no dedicated policy for scrapping abandoned vehicles. Once confiscated, these vehicles often end up stored at police stations or in open grounds.

Major Inputs in Cars:

➢ Steel (About 65%)
➢ Aluminium (About 7%)
➢ Copper(About 1%)
➢ Lead and other material (About 13%)
➢ Rubber and Plastics (About 15%)

Conclusion:

The Voluntary Vehicle Modernization Program (V-VMP) presents a significant opportunity for India to reduce vehicular pollution and promote sustainability by phasing out unfit vehicles. Further incentivizing vehicle owners for scrapping old vehicles can encourage broader participation. By fostering innovation in recycling methods and improving regulatory frameworks, India can achieve a lower carbon footprint while boosting its circular economy.

Elongated Tortoise

Why in News:

A critically endangered species, the elongated tortoise (Indotestudo elongata), was recently spotted in Haryana's Damdama area during a research survey in the Aravallis.

About Elongated Tortoise:

➢ The eongated tortoise is a medium-sized species characterized by a yellowish-brown or olive shell, with distinct black blotches at the center of each scute.
➢ During the breeding season, a pink ring appears on the nostril, and mature individuals develop a pinkish

coloration around the nostrils and eyes.

➤ **Habitat:** These tortoises prefer Sal deciduous forests and hilly evergreen forests as its habitat. It is distributed across Southeast Asia, spanning northern India, Nepal, Bhutan, and Bangladesh in the west; Myanmar, Thailand, Indochina, and Guangxi Province of China in the east; and extending south to Peninsular Malaysia.

➤ There is also a disjunct population in the Chota Nagpur plateau of eastern India. The species inhabits lowlands and foothills, typically found at elevations up to 1,000 meters above sea level.

➤ **Conservation Status:** Critically Endangered (IUCN Red List, 2018; Criteria A2cd)

Turtles in India:

➤ India's waters are home to five species of marine turtles: Olive Ridley, Green Turtle, Loggerhead, Hawksbill, and Leatherback.

➤ The Olive Ridley, Leatherback, and Loggerhead turtles are classified as 'Vulnerable' on the IUCN Red List of Threatened Species, while the Green Turtle is listed as 'Endangered' and the Hawksbill turtle as 'Critically Endangered.'

➤ During the 19th Conference of the Parties (CoP 19) to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), India reiterated its commitment to the conservation of tortoises and freshwater turtles within the country.

➤ National Marine Turtle Action Plan was released which is aimed at conserving marine turtles and their habitats in India. Additionally, turtles are safeguarded under the Biodiversity Conservation and Ganga Rejuvenation programme in India.

Conclusion:

Although the elongated tortoise has a wide distribution and suitable habitats, its population has drastically declined due to human activities, placing the species at critical risk of extinction. Habitat loss, poaching, and illegal trade have further exacerbated these declines, making urgent conservation efforts essential to protect this vulnerable species and prevent its disappearance from the wild.

Event on Resource Conservation in Delhi

Why in News:

A special event was held in Delhi, focusing on the conservation, restoration, and management of common resources such as forests, community lands, and water bodies. This event highlights the importance of common resources in the country.

About Common Resources:

➤ Common resources are those not owned by individuals or the government, but shared by the community. These include forests, ponds, grazing lands, rivers, and urban parks. Proper management of these resources is essential not only for the environment but also contributes to the social and economic well-being of local communities.

Importance of Common Resources:

➤ In India, about 205 million acres of land fall under common resources, supporting approximately 350 million rural people.

➤ These resources generate an estimated economic value of 6.6 lakh crore annually.

➤ They provide not only clean air and water but also form an integral part of cultural heritage.

Challenges in Management:

➤ Managing common resources faces several challenges, such as over-exploitation, resource depletion, and the impact of climate change.

➤ Local communities may have limited capacity to manage these resources, leading to potential loss.

Role of the Community:

➤ Local community leadership is crucial in managing common resources.

➤ Community members are often more aware of their resources and can implement sustainable practices.

➤ Moreover, through collective responsibility and local solutions, they can play an active role in the conservation of shared resources.

Way Forward:

It is essential to recognize and support the rights of local communities. Effective schemes like NREGA and afforestation programs should be implemented. The Forest Rights Act (FRA) of 2006 serves as a model,

granting forest dwellers the rights to manage and protect their resources. Thus, the conservation and management of common resources are vital not only for the environment but also for the economic development of rural communities. This event in Delhi is a positive step towards promoting community collaboration and sustainable development.

International Big Cat Alliance

Why in News:
After an approval from the Union Cabinet, India has signed and ratified the framework. India has formally joined the International Big Cat Alliance (IBCA), which it launched in 2023.

More about the News:
➢ In April 2023, to mark the 50th anniversary of Project Tiger, Indian Prime Minister Narendra Modi officially launched the International Big Cat Alliance (IBCA).
➢ IBCA is a global initiative aimed at securing the future of big cats and their habitats. The idea was first proposed by the Prime Minister in 2019 and has now evolved into a formal institution.
➢ As of now, four countries India, Nicaragua, Eswatini, and Somalia have become members of the IBCA, with 16 other countries having expressed written consent to join.

Structure and Objectives of the IBCA:
➢ The Union Environment Ministry of India is responsible for establishing and coordinating the IBCA. The alliance is envisioned as a multi-country, multi-agency coalition, involving 96 big cat range countries and non-range countries interested in conservation, along with conservation partners and scientific organizations working in this field.
➢ The IBCA aims to protect and conserve seven species of big cats, including: Tiger, Lion, Leopard, Snow Leopard, Puma, Jaguar, Cheetah.
➢ Of these, five species—Tiger, Lion, Leopard, Snow Leopard, and Cheetah—are found in India.
➢ Organizational Structure
➢ The IBCA will include:
  » An Assembly of Members,
  » A Standing Committee,
  » A Secretariat, which will be based in India.
➢ The alliance's organizational framework is modeled after the International Solar Alliance (ISA), with a Director-General (DG) appointed by the Ministry of Environment, Forest, and Climate Change (MoEFCC) to lead the initiative.
➢ By creating the IBCA, India is setting the stage for a globally coordinated effort to protect these endangered species and their landscapes.
➢ The IBCA will foster collaboration among countries, scientific communities, and conservation organizations to address the growing threats to big cat populations worldwide, including habitat loss, poaching, and human-wildlife conflict.

Conclusion:
As the IBCA gains more international support, it has the potential to become a powerful force for global wildlife conservation, much like India's leadership in the International Solar Alliance. Through this alliance, India is not only emphasizing its commitment to big cat conservation but also taking a leading role in global environmental initiatives.

State of the Rhino 2024 Report

Why in News:
The 2024 State of Rhino Report by the International Rhino Foundation sheds light on the distinct conservation challenges faced by rhino species across the globe. From Africa to Asia, environmental, socioeconomic and political factors shape the efforts to protect these animals, with each region facing unique obstacles.

Key Global Findings
➢ The 2024 State of Rhino Report presents several important updates on rhino conservation across the world:
➢ Poaching in Africa increased by 4% from 2022 to 2023, with at least 586 African rhinos poached in 2023, equivalent to one every 15 hours.
➢ Black rhino populations experienced slight declines due to heavy poaching in Namibia and Hluhluwe iMfolozi Park in South Africa, though some populations continue to thrive.
➢ Despite ongoing poaching, white rhino populations in South Africa are on the rise.
➢ Two Sumatran rhino calves were born in Way Kambas National Park in September and November 2023, providing hope for one of the most endangered rhino species.
➢ Indonesian authorities have intensified efforts against Javan rhino poaching, prosecuting groups responsible

for killing 26 rhinos between 2019 and 2023 in Ujung Kulon National Park.

Current Rhino Population and Species Overview:

➢ The global rhino population now stands at fewer than 28,000 individuals across all five species:
  » White Rhino (Africa)
  » Black Rhino (Africa)
  » Greater One-Horned Rhino (Asia, mainly India and Nepal)
  » Javan Rhino (Indonesia)
  » Sumatran Rhino (Indonesia)
➢ Each species faces unique threats, from poaching to habitat loss and climate change, requiring a combination of strategies for effective conservation.

Greater One-Horned Rhino and ongoing Challenges:

➢ The Greater One-Horned Rhino (Rhinoceros unicornis) mainly lives in India and Nepal, with occasional sightings in Bhutan. Due to strong government protection and cooperation between India and Nepal, their population has made a significant recovery.
➢ A century ago, fewer than 100 Greater One-Horned Rhinos were left, but today, their numbers have grown to 4,014, a 20% increase over the last decade. In India, the population reached 3,262 by the end of 2021. Despite this progress, the species is still classified as Vulnerable by the IUCN.
➢ Poaching remains a serious threat, and invasive plants are reducing the availability of native food sources, shrinking their habitat. Additionally, climate change poses another risk, especially with stronger monsoon seasons increasing the chances of human-wildlife conflict as their habitats are disturbed.

Conclusion:

The report underscores the critical need for vigilance, innovation, and collaboration in rhino conservation efforts. While setbacks such as increased poaching or habitat destruction persist, successes like the steady growth of the Greater One-Horned Rhino and the births of Sumatran calves demonstrate that progress is possible. To secure the future of rhinos worldwide, there is need for continued combination of science, technology, and human effort. From anti-poaching strategies to habitat restoration, a comprehensive approach is needed to ensure the survival of these magnificent creatures for future generations.

Wildlife Habitat Development Scheme

Why in News:

Ministry of Environment, Forestry and Climate Change has achieved the 100-day target on integrated development of wildlife habitats. Additionally, the Union Cabinet had approved the continuation of the Wildlife Habitat Development Scheme with an outlay of over 2600 crore rupees.

About Wildlife Habitat Development Scheme:

➢ The scheme aims to enhance the protection and management of wildlife habitats across India through a range of activities. These include habitat restoration, community involvement in conservation efforts, and addressing human-wildlife conflicts.
➢ The scheme aims to enhance wildlife protection and management across India, focusing on critical components like Project Tiger, Project Elephant and Development of Wildlife Habitat. It was a priority in the Government's 100-day action plan. The scheme is set to strengthen existing core elements while integrating advanced technological interventions over the current and upcoming financial years, especially in tiger and wildlife habitats.

Key features of the Scheme:

➢ **Support to Protected Areas:** This includes National Parks, Wildlife Sanctuaries, Conservation Reserves, and Community Reserves.
➢ **Protection of Wildlife Outside Protected Areas:** Extending conservation efforts to areas beyond the designated protected regions.
➢ **Recovery Programs:** Focused on saving critically endangered species and their habitats.

Components of the Scheme:

Project Tiger:

Technological Advancements:

➤ Use of M-STrIPES (Monitoring System for Tigers, Intensive Protection and Ecological Status) mobile app for day-to-day management, aligned with the Digital India initiative.

➤ **All-India Tiger Estimation (2022):** Utilized camera traps and Artificial Intelligence (AI) for species identification.

➤ **Conservation Genetics:** Used to determine tiger numbers in low-density areas and for understanding their food ecology. Standard Operating Procedures (SOPs) for tiger translocation have been issued based on genetic composition.

➤ **Project Cheetah:** Expansion of cheetah introduction areas as per theCheetah Action Plan, with enhanced monitoring using advanced radio telemetry protocols.

Development of Wildlife Habitat:

➤ **Project Dolphin:** Supported through advanced equipment like Remotely Operated Vehicles (ROVs) and passive acoustic monitoring devices for dolphin enumeration and habitat monitoring.

➤ **Project Lion:** To be strengthened as per the vision document "Lion @ 2047: A Vision for Amrut Kaal."

➤ **Human-Elephant Conflict:** Information and communication technology (ICT) interventions are planned for addressing conflicts on a larger scale.

3. Protected Areas and Keystone Species:

➤ Covers 55 tiger reserves, 33 elephant reserves, and 718 protected areas.

➤ Forests in these areas are crucial for mitigating climate change and ensuring water security.

➤ Focus on keystone species such as tigers, elephants, cheetahs, snow leopards, and lions, which serve as ecosystem indicators.

➤ **Species Recovery Programme:** Lesser-known species identified under this program will benefit from habitat conservation efforts.

➤ **Impact on Livelihoods:**The scheme is projected to generate over 50 lakh man-daysof direct employment, with additional indirect jobs created through eco-tourism and related activities.

Conclusion:

The scheme envisions a comprehensive, technology-driven approach to wildlife conservation in India, ensuring the protection of critical habitats and species while also fostering sustainable livelihoods through eco-tourism.

Integrated Ocean Energy Atlas

Why in News:

Indian National Centre for Ocean Information Services (INCOIS), Hyderabad developed a new Integrated Ocean Energy Atlas that maps the potential for generating energy from blue renewable sources along India's coastal areas.

Key Points:

➤ Energy Production Potential: The Indian Exclusive Economic Zone (EEZ) has the capacity to generate approximately 9.2 lakh terawatt hours (TWh) of energy, which can be harnessed from tidal waves, currents, and other blue renewable sources.

➤ Features of the Atlas: This atlas maps coastal sites with a resolution of 5 km x 5 km, extending up to 220 km. India's coastline of over 7,000 km offers extensive opportunities for energy production.

➤ Assessment of Energy Sources: Researchers have evaluated potential energy production using weather models, local data, and satellite data from the past 20-30 years. The atlas presents daily, monthly, and annual energy generation potentials from each source.

Impacts:

➤ Step Towards a Blue Economy: Utilizing offshore renewable energy sources like solar, wind and tides is not only important but will also aid in the energy transition.

➤ Utility for Industries: This atlas will assist industries working in the renewable energy sector in planning and decision-making.

➤ Guidance for Policymakers: This information will help policymakers and researchers estimate energy production and better harness the country's blue energy resources.

Conclusion:

The INCOIS atlas highlights India's potential in blue energy and represents a significant step towards energy production self-sufficiency. It will not only increase energy availability but also help meet India's renewable energy needs.

Science & Technology

4
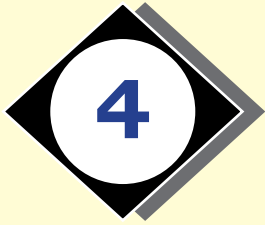
Semiconductors: India's Next Strategic Leap

Semiconductors, often referred to as the "new oil," are crucial to almost all electronic devices. In today's era of technology, countries are competing to secure a strong foothold in manufacturing and supply. This makes understanding the semiconductor industry and India's position within it increasingly important. The US recently announced a new partnership with India to explore opportunities in the semiconductor supply chain, following India's signing of a semiconductor ecosystem agreement with Singapore. Furthermore, "SEMICON INDIA 2024" was held in Greater Noida from September 11 to 13, 2024. The global semiconductor landscape has also been deeply influenced by the ongoing "chip war" between the US and China, which has impacted geopolitics worldwide.

About Semiconductors and their Importance:

❖ A semiconductor is a material with special electrical properties that make it essential for computers and other electronic devices. It is usually a solid chemical element or compound that can conduct electricity under some conditions but not others. This ability to control electrical flow makes semiconductors an ideal medium for managing current in everyday appliances and electronics.

❖ In technological aspect, semiconductors are also often known as integrated circuits or 'chips'. They are made up of tiny electronic circuits that include transistors, diodes, capacitors, resistors, and their many connections. These chips are primarily made from silicon and contain millions of transistors that act as tiny switches, turning on and off to process data like images, radio waves and sounds.

❖ Semiconductors are crucial for electronic devices, powering advancements in fields such as communications, computing, healthcare, military systems, transportation, clean energy, and more. Despite their small size, they are complex to design and manufacture, providing the essential functions needed for devices to process, store and transmit data.

Semiconductor Ecosystem in India:

❖ Supply disruptions during the Covid-19 pandemic and rising geopolitical tensions, particularly due to China's actions in the Taiwan Strait and the South China Sea, have accelerated India's push to develop its own semiconductor ecosystem. The global chip industry is dominated by a few countries, and

India is a late entrant in this high-tech and costly field. Recognizing the economic and geopolitical significance of the semiconductor industry, the Indian government has taken several steps to address the shortcomings of the sector and boost domestic semiconductor manufacturing.
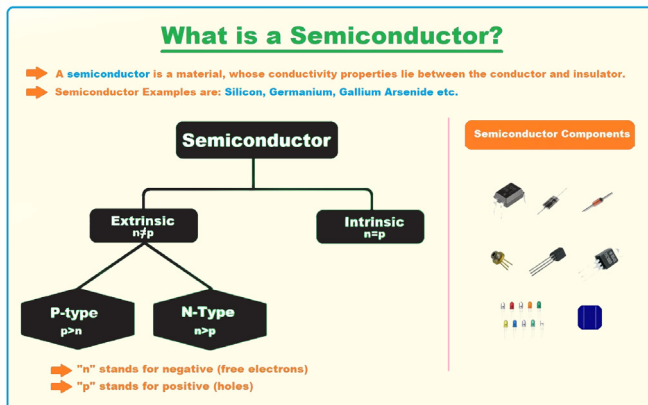
❖ In February, the Cabinet approved semiconductor projects worth around Rs 1.26 lakh crore. The same month, the government announced a partnership between the Tata Group and Taiwan's Powerchip Semiconductor Manufacturing Corporation (PSMC) to build a semiconductor plant in Gujarat. So far, five semiconductor units, including four assembly units, have been approved under the government's incentive scheme.

❖ India's semiconductor ecosystem is evolving rapidly, supported by a strong power installed capacity of 422 GW, making it the 3rd largest globally. Non-fossil fuel sources contribute 179 GW (~43%), with a target of 500 GW in renewables by 2030. The country has a vast STEM talent pool of nearly 10 million, with over 85,000 professionals expected to specialize in semiconductors by 2026. With a median age of 28.2 years, India will have the largest working population by 2047. The domestic electronics market is projected to reach $300 billion by 2026, with a $110 billion semiconductor market opportunity by 2030.

India Semiconductor Mission:

❖ Launched in 2021, the India Semiconductor Mission is a strategic initiative by the Indian government aimed at boosting the domestic semiconductor industry. Its objectives include enhancing semiconductor design and manufacturing capabilities, fostering innovation, and driving employment and economic growth. The Mission operates under the Ministry of Electronics and Information Technology (MeitY) and other relevant government bodies.

❖ Semicon India Programme: The Semicon India programme has been introduced with a budget of Rs 76,000 crore to support companies investing in semiconductors, display manufacturing and design ecosystems. This programme is designed to develop the semiconductor and display manufacturing sectors in India. It has been updated to remain competitive with the incentives offered by countries with established semiconductor industries and address the limited number of companies with advanced technologies.

❖ The following four schemes have been introduced under the Semicon India programme:
   » Modified Scheme for setting up of Semiconductor Fabs in India
   » Modified Scheme for setting up of Display Fabs in India
   » Modified Scheme for setting up of Compound Semiconductors / Silicon Photonics / Sensors Fab / Discrete Semiconductors Fab and Semiconductor Assembly, Testing, Marking and Packaging (ATMP) / OSAT facilities in India'
   » Semicon India Future Design: Design Linked Incentive (DLI) Scheme

Semiconductor Fabs and Display Fabs:

❖ The Scheme for Setting up of Semiconductor Fabs and Display Fabs in India shall extend fiscal support of up to 50% of project cost on pari-passu basis to applicants who are found eligible and have the technology as well as capacity to execute such highly capital intensive and resource incentive projects. Government of India will work closely with the State Governments establish High-Tech Clusters with requisite infrastructure in terms of land, semiconductor grade water, high quality power, logistics and research ecosystem to approve applications for setting up atleast two greenfield Semiconductor Fabs and two Display Fabs in the country.

❖ **Semi-conductor Laboratory (SCL):** Union Cabinet has also approved that Ministry of Electronics and Information Technology will take requisite steps for modernization and commercialization of Semiconductor Laboratory (SCL). MeitY will explore the possibility for the Joint Venture of SCL with a commercial fab partner to modernize the brownfield fab facility.

❖ **Compound Semiconductors / Silicon Photonics / Sensors (including MEMS) Fabs and Semiconductor ATMP / OSAT Units:** The Scheme for Setting up of Compound Semiconductors / Silicon Photonics / Sensors Fabs and Semiconductor ATMP / OSAT facilities in India shall extend fiscal support of 30% of capital expenditure to approved units. Atleast 15 such units of Compound Semiconductors and Semiconductor Packaging are expected to be established with Government support under this scheme.

❖ **Semiconductor Design Companies:** The Design Linked Incentive Scheme shall extend product design linked incentive of up to 50% of eligible expenditure and product deployment linked incentive of 6% - 4% on net sales for five years. Support will be provided to 100 domestic companies of semiconductor design for Integrated Circuits (ICs), Chipsets, System on Chips (SoCs), Systems & IP Cores and semiconductor linked design and facilitating the growth of not less than 20 such companies which can achieve turnover of more than Rs.1500 crore in the coming five years.

Challenges for India's Semiconductor Goals

❖ **Limited Access to Technology:** The global semiconductor market is controlled by a few countries and companies. Taiwan and South Korea dominate around 80% of the global foundry base for chips, while only one company, the Netherlands-based ASML, produces the essential EUV (extreme ultraviolet) lithography devices needed for advanced chips. This creates a nearly closed manufacturing ecosystem with high entry barriers.

❖ **Capital Intensity:** The semiconductor industry requires substantial investment. According to the Semiconductor Industry Association, it demands high expenditure on both research and development (22% of annual semiconductor sales) and capital investment (26%). This makes semiconductor fabrication highly capital-intensive with significant entry barriers.

❖ **Complex Manufacturing Process:** Semiconductor manufacturing involves a complex process with 500 to 1,500 steps. It requires various inputs such as silicon wafers, commodity and specialty chemicals, and essential infrastructure like clean water and uninterrupted power supply.

❖ **Lack of Skilled Talent:** Although India is a major hub for chip design engineers, it struggles with a shortage of skilled workers for semiconductor fabrication plants. Additionally, experts stress that transforming India into a semiconductor hub will require significant financial backing and investment in talent development.

❖ **Insufficient R&D:** India currently lacks substantial original research in semiconductor design, which is crucial for the future development of chips.

❖ **Policy and Infrastructure Concerns:** Major industry players have concerns about India's policy stability. Issues include a cumbersome administrative structure, high tariffs on electronics component imports, inadequate infrastructure, and unpredictable trade policies.

❖ **Impact of climate change:** A Moody's report highlights the impact of climate change, noting that global warming could damage manufacturing facilities, disrupt supply chains and lead to financial losses. This risk might deter investments and hinder India's ambition to become a major chip-making center.
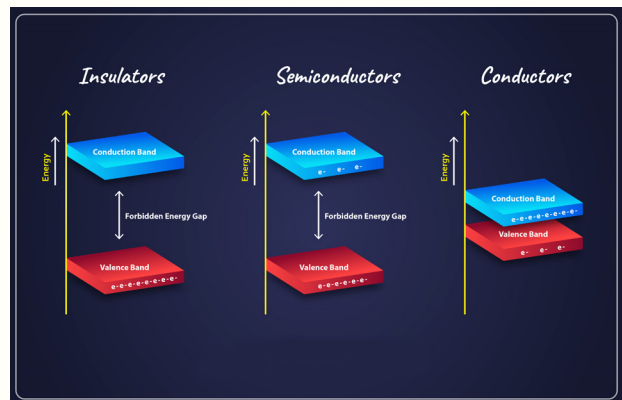
The Impact of Global Partnerships on India's Semiconductor Industry:

❖ India aims to transition from import substitution to export-led manufacturing, aiming to produce chips and servers for both domestic and global markets.

❖ India's partnerships with the US, EU, Japan, Korea and others are advancing its goals in semiconductors and electronics. Meanwhile, countries that previously led in this field are facing challenges from export controls, creating a unique opportunity for India. This situation provides India with the chance to excel in both electronics and semiconductor design due to these advantageous circumstances.

❖ **India-US Partnership:** On September 9, 2024, the US announced a new partnership with India to explore semiconductor supply chain opportunities.

This will involve a comprehensive assessment of India's semiconductor ecosystem, regulatory framework, workforce, and infrastructure needs. Earlier, India and the US had signed a Memorandum of Understanding (MoU) on semiconductor supply chain and innovation during the Commercial Dialogue 2023.

❖ **India-Singapore Semiconductor Ecosystem Partnership:** Prime Minister Narendra Modi and Singaporean Prime Minister Lawrence Wong recently witnessed the signing of an MoU for an India-Singapore Semiconductor Ecosystem Partnership. Singapore, home to nine of the world's top 15 semiconductor firms, offers expertise in all segments of the semiconductor value chain. India aims to collaborate with Singapore in talent development and knowledge-sharing, and engage with semiconductor equipment and material manufacturers to build its own semiconductor ecosystem.

❖ **India-EU Semiconductor Pact:** India and the European Union have signed an MoU to cooperate in the semiconductor sector. This agreement will facilitate investments, joint ventures, and technology partnerships, including the development of manufacturing facilities.

❖ **India-Japan Chip Supply Chain Partnership:** The Union Cabinet has approved a Memorandum of Cooperation (MoC) with Japan to develop a semiconductor supply chain partnership focusing on R&D, manufacturing, design, and talent development.

❖ **India-Taiwan Collaboration:** Tata, in partnership with Taiwan's Powerchip Semiconductor Manufacturing Corporation (PSMC), is building India's first commercial semiconductor fabrication plant. This project is expected to cost over Rs 91,000 crore.

❖ Developing the semiconductor and display ecosystem will have a ripple effect across various sectors, boosting integration into the global value chain. As semiconductors and displays are foundational to modern electronics and the next phase of digital transformation under Industry 4.0, India should focus on advancing its capabilities in these areas.

❖ To achieve this, India must prioritize fiscal support for various aspects of the chip-making chain, including design centers, testing facilities, and packaging. Rather than concentrating solely on domestic production, India should strive to be a significant player in a trusted, plurilateral semiconductor ecosystem, strategically aligning with global partners and excluding major adversaries. Implementing favorable trade policies will be crucial for building and sustaining this global network.

Short Issues

BPaLM Regimen

Why in News:

Union Ministry of Health & Family Welfare has approved the introduction of a groundbreaking treatment regimen for Multi-Drug-Resistant Tuberculosis (MDR-TB), name BPaLM regimen.

What is the BPaLM Regimen?

➤ The BPaLM regimen represents a significant advancement in TB treatment. It consists of a four-drug combination: Bedaquiline, Pretomanid, Linezolid and optionally, Moxifloxacin.

➤ This regimen has been demonstrated to be both safer and more effective compared to previous MDR-TB treatments.

➤ Traditional therapies for MDR-TB can extend up to 20 months and are often associated with severe side effects. In contrast, the BPaLM regimen shortens the treatment period to just six months while boasting a high success rate.

About Tuberculosis:

➤ Tuberculosis is an infectious disease that primarily affects the lungs, caused by the bacillus Mycobacterium tuberculosis bacteria.

➤ The Bacille Calmette-Guerin (BCG) vaccine provides immunity against TB.

What is Drug-Resistant TB?

➤ Drug-resistant TB occurs when the bacteria causing TB become resistant to one or more anti-TB drugs, making treatment more challenging.

Types of Drug-Resistant TB:
- ➢ **Multi-Drug-Resistant TB (MDR-TB):** Resistant to at least two first-line TB drugs (isoniazid and rifampicin).
- ➢ **Extensively Drug-Resistant TB (XDR-TB):** Resistant to any fluoroquinolone and atleast one of three injectable second-line drugs, in addition to MDR-TB.
- ➢ **Totally Drug-Resistant TB (TDR-TB):** Resistant to all available TB drugs.

Strategic vision for TB elimination in India:
- ➢ **National Tuberculosis Elimination Programme (NTEP):** Launched in March 2018, aims to eliminate TB by 2025.
- ➢ **Pradhan Mantri TB Mukt Bharat Abhiyaan (PMTBMBA):** Launched on September 09, 2022, promotes collective action towards TB elimination.
- ➢ **Ni-kshay Mitra Program:** Provides diagnostics, nutrition, and vocational assistance to TB patients.
- ➢ **Ni-kshay 2.0 Portal:** Facilitates community involvement and leverages Corporate Social Responsibility for patient support.

Conclusion:

The introduction of the BPaLM regimen marks a transformative moment in the fight against TB in India. By significantly improving treatment efficacy and reducing the duration of therapy, the regimen aligns with the nation's ambitious goal of ending TB by 2025. As the roll-out progresses, the continued support of all stakeholders—including government bodies, healthcare professionals, and the community—will be essential to achieving this critical public health milestone.

Role of Mitochondria in Parkinson's Disease

Why in News:

A research team from Florida international University has investigated on the role of mitochondria in Parkinson's disease, targeting key protein Drp1 for potential treatments.

Research highlights:
- ➢ The research team hypothesized that restoring mitochondrial function by manipulating mitochondrial dynamics could prevent neuronal dysfunction and cell death.

Dynamin-related Protein 1 (Drp1):

- ➢ Drp1 controls mitochondrial division. While this division helps meet cellular demands, excessive Drp1 activity can lead to fragmented mitochondria and impaired function.
- ➢ Using neuronal cell cultures and animal models (rats and mice), the researchers discovered that environmental toxins and toxic proteins linked to Parkinson's caused fragmented, dysfunctional mitochondria and toxic protein buildup. These processes contributed to neuronal cell death.
- ➢ By reducing Drp1 activity, the researchers restored mitochondrial function, protecting neurons from damage and preserving their functionality. Behavior changes in rats linked to impaired movement were also reversed.
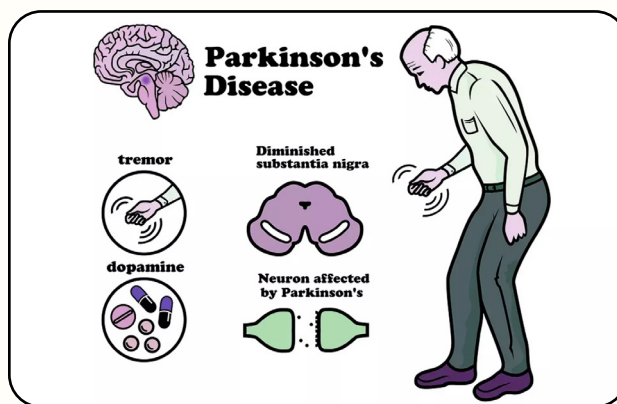
Impact of Manganese:
- ➢ In a recent study, the research team explored the effects of manganese, a heavy metal associated with neurodegeneration and an increased risk of parkinsonism.
- ➢ **Effect on Cells:** Manganese primarily affected the cell's waste recycling system, causing toxic protein accumulation before mitochondrial dysfunction set in.
- ➢ **Inhibition of Drp1:** Inhibiting Drp1 restored the cell's waste recycling system, preventing toxic protein buildup, even in the presence of manganese.

FDA-Approved Compounds:
- ➢ The researchers have identified several FDA-approved compounds that target Drp1. These compounds are currently being tested for their potential as new treatments for Parkinson's disease.

Role of Mitochondria in Parkinson's disease:
- ➢ Mitochondria are the cell's powerhouses, constantly shifting in size, number, and location to meet various

cellular demands. These dynamic changes, known as mitochondrial dynamics, are crucial for both mitochondrial function and overall cell health.

➤ **Impaired Mitochondrial Dynamics:** Imbalances in mitochondrial fusion and division can lead to cell death, a feature found in many neurodegenerative diseases, including Parkinson's. Disease-related factors, such as toxic proteins and environmental neurotoxins, disrupt these mitochondrial processes.

➤ **Toxic Protein Aggregates:** Impaired mitochondrial function hinders the cell's waste recycling, leading to a buildup of toxic proteins. These harmful aggregates are a hallmark of Parkinson's disease.

About Parkinson's disease:

➤ British physician James Parkinson published An Essay on the Shaking Palsy, marking the first description of Parkinson's disease (PD).

➤ Parkinson's disease is the second most common neurodegenerative disease in the U.S., affecting about 1 million Americans and over 10 million people globally.

➤ The characteristic tremors in Parkinson's patients result from the death of brain cells controlling movement. To date, there are no treatments that stop or slow the death of these cells.

Conclusion:

The research underscores the pivotal role of mitochondrial dynamics in Parkinson's disease and highlights Drp1 as a promising target for developing therapies. Ongoing studies focus on finding ways to inhibit Drp1 activity, with potential treatments showing promise for protecting neuronal cells from degeneration.

National Blockchain Framework

Why in News:

The Ministry of Electronics and Information Technology (MeitY) has officially launched the National Blockchain Framework (NBF) along with several complementary initiatives, including the Vishvasya-Blockchain Technology Stack, National Blockchain Framework Lite (NBFLite), Praamaanik and the National Blockchain Portal.

About National Blockchain Framework:

➤ The NBF is an online platform designed to secure digital governance using blockchain technology,

enhancing transparency and trust in public services. It aims to provide a robust foundation for various blockchain applications within government operations.

Key Launches Related to NBF:

➤ **Vishvasya-Blockchain Technology Stack:** This stack offers Blockchain-as-a-Service (BaaS) with a distributed infrastructure that supports a variety of blockchain-based applications.

➤ **National Blockchain Framework Lite (NBFLite):** A lightweight sandbox platform tailored for startups and academic institutions, NBFLite enables rapid prototyping, research, and skill development in blockchain technologies.

➤ **Praamaanik:** This innovative solution uses blockchain to verify the origin of mobile applications, enhancing trust in app integrity.

National Blockchain Portal:

➤ Aimed at facilitating access and integration with diverse blockchain resources, this portal serves as a central hub for blockchain initiatives.

Benefits of the National Blockchain Framework:

➤ **Boosting Security and Transparency:** The NBF enhances security, trust and transparency in delivering citizen-centric services, aligning with the Government of India's vision for reliable digital service delivery.

➤ **Transforming Governance with Blockchain:** MeitY is promoting the scaling of NBF applications across states and departments, urging exploration of new applications and integration opportunities.

➤ **Addressing R&D Challenges:** The framework is designed to tackle key challenges such as:
  » The need for skilled personnel to develop blockchain applications.
  » Research challenges around security, interoperability, and performance.

What is BaaS?

➤ It refers to a third-party cloud-based infrastructure and management service that enables companies to build, deploy, and manage blockchain applications without having to develop and maintain the underlying blockchain infrastructure.

Benefits of BaaS:

➤ **Simplification of Tasks:** Companies can rapidly create and deploy blockchain applications without the burden of managing complex infrastructure.

➤ **Cost Savings:** BaaS enables cost-effective use

of blockchain, fostering secure and transparent innovation while improving services.

➢ **Operational Agility and Scalability:** BaaS ensures that blockchain infrastructure remains flexible and scalable to accommodate changing application needs and user demands.

Use Cases for BaaS:
➢ Supply chain management
➢ Identity verification
➢ Smart contracts
➢ Decentralized finance (DeFi)
➢ Healthcare record management
➢ Voting systems

Conclusion:

The launch of the National Blockchain Framework and its associated components marks a significant advancement in India's digital governance, positioning the country at the forefront of blockchain innovation. As this framework gets implemented, it is expected that the reach of public services will increase to the last mile people.

Samudrayan Mission

Why in News:

India plans to conduct a wet test for the indigenously developed manned submersible Matsya-6000 to enhance its capabilities for deep-sea research. This test is scheduled to take place in October 2024 under actual underwater conditions.

About the wet test:
➢ The wet test is a critical process aimed at evaluating the submersible's performance and safety in real underwater conditions. During this test, the structure, functionality, and efficiency of various technical systems of the submersible are assessed.
➢ The test examines the submersible's pressure resistance capacity, ensuring it can operate safely under the high pressures of the deep sea.
➢ It also evaluates the efficiency of the propulsion system to determine if the submersible can operate correctly at various depths.
➢ Additionally, the life-support systems, such as oxygen levels, carbon dioxide removal, and temperature control, are tested during the weight test.

Importance of the wet test:
➢ A successful wet test will ensure that Matsya-6000 meets all necessary standards and is fully prepared for

deep-sea missions.
➢ This test will provide a new direction for India's deep-sea research capabilities and strengthen its position in global marine research.
➢ The data obtained from the test will guide future ocean exploration missions and research programs.

About Matsya-6000:
➢ Matsya-6000 is named after the fish avatar of the Hindu god Vishnu. This submersible is capable of diving to depths of 6,000 meters, allowing scientists to explore previously unknown regions of the Earth's oceans.
➢ It includes advanced technology such as:
  » State-of-the-art life support systems
  » Navigation equipment
  » Robotic arms for sampling
  » High-resolution imaging systems

About the Samudrayan Mission:
➢ Launched in 2021, the Samudrayan Mission's primary objective is to send three scientists to the ocean floor of the Indian Ocean at depths of 6,000 meters via the Matsya-6000 submersible. This submersible can operate for up to 12 hours, and in emergencies, its operational capacity can be extended to 96 hours.
➢ The submersible will assist scientists in:
  » Studying deep-sea ecosystems
  » Exploring underwater mineral resources
  » Monitoring marine changes

Conclusion:
The wet test of Matsya-6000 will not only demonstrate

its technical capabilities but also open a new chapter in India's marine science. This test will empower Indian scientists to further explore the ocean, significantly contributing to the study of marine ecology and resources.

Bio-RIDE

Why in News:

The Union Cabinet, chaired by PM Narendra Modi, has approved the continuation of two umbrella schemes under the Department of Biotechnology, now merged into a single scheme called 'Biotechnology Research Innovation and Entrepreneurship Development (Bio-RIDE).'

About Bio-RIDE Scheme:

➢ The Bio-RIDE scheme is designed to boost innovation, support bio-entrepreneurship, and strengthen India's position as a global leader in biomanufacturing and biotechnology. This new scheme includes an additional component focused on Biomanufacturing and Biofoundry.

➢ It aims to speed up research, improve product development, and connect academic research with industrial applications.

➢ The scheme is part of the Government of India's mission to harness the potential of bio-innovation to tackle national and global challenges such as healthcare, agriculture, environmental sustainability, and clean energy.

➢ The scheme has three broad components:
   » Biotechnology Research and Development (R&D);
   » Industrial & Entrepreneurship Development (I&ED)
   » Biomanufacturing and Biofoundry

Impact of Bio-RIDE Scheme:

➢ **Promote Bio-Entrepreneurship:** It will support startups by offering seed funding, incubation and mentorship for bio-entrepreneurs.

➢ **Advance Innovation:** Grants and incentives will be provided for research in synthetic biology, biopharmaceuticals, bioenergy and bioplastics.

➢ **Facilitate Industry-Academia Collaboration:** The scheme will foster partnerships between academic institutions, research bodies and industry to bring bio-based products and technologies to market faster.

➢ **Encourage Sustainable Biomanufacturing:** It will emphasize eco-friendly biomanufacturing practices in line with India's green goals.

➢ **Support Researchers through Extramural Funding:** Bio-RIDE will fund scientific research in fields like agriculture, healthcare, bioenergy, and sustainability.

➢ **Nurture Human Resources:** The scheme will help develop skilled students, researchers, and scientists in biotechnology, building their capacity to embrace new technological advancements.

Conclusion:

Department of Biotechnology is working towards making India a leader in biotechnology research, innovation, and industry. The goal is to build a US$300 billion bioeconomy by 2030, contributing to the vision of a 'Viksit Bharat 2047.' The Bio-RIDE scheme represents a significant step towards establishing India as a leader in biotechnology and biomanufacturing.

One-Third of India's 3 Million Sepsis Deaths Linked to AMR

Why in News:

A study published by The Lancet states that one-third of sepsis-related deaths in India are associated with antimicrobial resistance (AMR). According to the study, out of the 2.99 million sepsis deaths in India in 2019, approximately 1.04 million (33.4%) were due to antimicrobial resistance.

About Sepsis:

➢ Sepsis is a severe condition that arises when the body's immune system reacts dangerously to a bacterial infection. If not treated promptly, it can lead to organ failure. The cause of sepsis is usually a bacterial infection, but it can also result from infections caused by viruses, fungi, or parasites. Common infections that can lead to sepsis include:
   » Lung infections (pneumonia)
   » Urinary tract infections
   » Skin infections
   » Gastrointestinal infections

Sepsis Deaths in India:

➢ In India, 27% of sepsis deaths are due to lower respiratory infections. Notably, among children under the age of five, Streptococcus pneumoniae is the deadliest bacterial infection.

About Antimicrobial Resistance:

➢ Antimicrobial resistance occurs when microbes (such as bacteria, viruses, fungi and parasites)

become resistant to antimicrobial drugs (including antibiotics, antifungals, antivirals, antimalarials and anthelmintics).

➢ As a result, these medicines become ineffective, allowing infections to persist in the body and increasing the risk of spread to others.

Causes of Antimicrobial Resistance:

➢ "The main cause of AMR is the overuse and misuse of antibiotics. This leads to bacteria and parasites becoming resistant to medications, limiting treatment options." The study also indicates that the most common drug-resistant pathogens in India include E. coli, Klebsiella pneumoniae, and Acinetobacter baumannii, all of which are becoming serious threats for infections.

Causes of Sepsis Deaths:

➢ According to The Lancet study, approximately 27% of sepsis deaths in India are related to lower respiratory infections. In 2019, among the deaths due to sepsis in children under five, 325,000 were caused by bacterial infections.

Way Forward:

➢ **Diagnostic Testing:** It is essential to address the lack of testing facilities for identifying pathogens at the local level.

➢ **Social Awareness:** Raising awareness about the proper use of antibiotics is crucial.

➢ **Investment:** Investment in new antibiotics and rapid testing facilities is necessary.

IISc Scientists Develop Brain-Inspired Analog Computing Platform

Why in News:

Researchers at the Indian Institute of Science (IISc) have developed a cutting-edge brain-inspired analog computing platform that offers a new direction for fast and energy-efficient computations. This platform has the potential to revolutionize the fields of artificial intelligence (AI) and machine learning (ML).

Core Technology:

➢ The foundation of this technology is the functioning of the human brain, which processes data in parallel. Scientists believe that there are limitations to current digital computing, and this new analog system could provide solutions to more complex problems.

Features of the Platform:

➢ **Energy Efficiency:** This platform consumes less energy compared to traditional computers, making it particularly useful for mobile and other energy-constrained devices.

➢ **Speed:** Similar to the brain, this system processes data in parallel, resulting in faster computations.

➢ **Resource Requirements:** The platform can operate with limited resources, allowing it to be applied across various fields.

About Brain-Inspired Analog Computing:

➢ Brain-Inspired Analog Computing is a new field aimed at emulating the structure and functioning of the human brain.

➢ Traditional computers use binary logic (0s and 1s) for sequential processing. In contrast, neuromorphic systems are designed to replicate the communication methods of neurons and synapses in the brain.

➢ These systems rely on analog signals and various conductivity states, enabling them to process information in a manner similar to biological neural networks.

➢ Neuromorphic computing is particularly beneficial for artificial intelligence (AI) tasks, allowing for high accuracy and efficiency by mimicking neural networks and integrating processing and memory.

Conclusion:

The development from IISc represents a new direction in Indian science and technological innovation. If implemented correctly, it could play a significant role not only in research and development but also across various industries.

Nanozymes

Why in News:

Researchers at the CSIR-Central Leather Research Institute (CSIR-CLRI), Chennai, have made significant strides in nanozymes (nanomaterials that mimic enzyme functions), with innovative breakthroughs that may revolutionize artificial enzymes and collagen-based biomaterials.

Key Findings of the study:

Manganese-Based Oxidase Nanozyme (MnN):

➢ The first study focuses on a manganese-based oxidase nanozyme (MnN) with great potential in the biomedical field.

➢ This MnN nanozyme can activate collagen, a critical structural protein, and crosslink its tyrosine residues using only trace amounts of tannic acid.

➢ **Advantages over Traditional Methods:** Conventional collagen crosslinking methods often use harsh chemicals or extreme conditions, which can lead to toxicity or protein denaturation. The MnN nanozyme operates under mild conditions, preserving collagen's structure and offering high resistance to enzymatic degradation.

➢ **Applications:** This breakthrough is crucial for developing durable collagen-based biomaterials for wound healing, tissue engineering, and other medical uses.

➢ **Resistance to Collagenase:** The MnN nanozyme creates a tannic acid-tyrosine linkage that hinders collagenase, an enzyme that degrades collagen, making it highly resistant to enzymatic breakdown.

Metal-Organic Framework Study:

➢ In a second study, the group explored how biomolecules interact with enzyme-like catalytic sites within metal-organic frameworks (MOFs).

➢ **Controlled Interactions:** The team was able to recreate enzyme-like activity in the MOF pockets, controlling biomolecule interactions in ways that conventional methods can't.

➢ **Implications:** This research highlights the importance of controlling these interactions for artificial enzyme effectiveness, paving the way for more precise artificial enzymes with fewer side reactions.

About Nanozymes:

➢ Enzymes, in general, are proteins that accelerate metabolism by facilitating chemical reactions in the body, either by building or breaking down substances.

➢ Nanozymes are nanomaterial-based artificial enzymes that can mimic the catalytic functions of natural enzymes. They can be made from metals, metal oxides, carbon-based materials, or other types of nanomaterials.

➢ Nanozymes offer several advantages over biological enzymes, including high activity and stability under different conditions, such as varying temperatures and pH levels.

Conclusion:

These studies represent a major advancement in nanozyme research, pushing the boundaries of artificial enzyme development. The findings enhance our understanding of nanozyme chemistry and open the door for safer, more effective biomaterials, especially in biomedical applications such as wound healing and tissue engineering. These new nanozyme technologies offer promising solutions for overcoming these hurdles, offering more precise and biocompatible alternatives for medical applications.

PARAM Rudra Supercomputers

Why in News:

Prime Minister Narendra Modi has inaugurated three PARAM Rudra supercomputers worth 130 crore under the National Supercomputing Mission (NSM).

Key Points:

➢ These supercomputers have been established in Pune, Delhi, and Kolkata and will promote advanced research in physics, cosmology, earth sciences and other scientific fields.

➢ These supercomputers will be utilized by the Giant Metre Radio Telescope (GMRT) in Pune, the Inter-University Accelerator Centre (IUAC) in Delhi, and the S.N. Bose Centre in Kolkata.

National Supercomputing Mission (NSM):

➢ The National Supercomputing Mission (NSM) was launched in 2015 with the goal of connecting more than 70 high-performance computing facilities to national academic and R&D institutions.

➢ This mission is jointly operated by the Ministry of Electronics and Information Technology and the Department of Science and Technology.

Key Features:

➢ The main focus of NSM is on developing indigenous hardware and software for supercomputing systems, including processors, networks, and storage solutions.

➢ This mission is implemented by the Centre for Development of Advanced Computing (C-DAC), Pune and the Indian Institute of Science (IISc), Bengaluru.

➢ Several supercomputers have been developed under this mission, including the PARAM series, which are installed in major research institutions.

About Supercomputers:

➢ Supercomputers are specially designed computers capable of running applications that require high speed and large-scale data processing.

➢ They operate at the highest operational rates, with performance measured in floating-point operations per second (FLOPS).

➢ These machines play a crucial role in various fields

such as weather forecasting, space exploration, artificial intelligence, and healthcare.

Conclusion:

With the recent launch of the PARAM Rudra supercomputers in India, the country is entering a new era of technological advancement. These supercomputers will play a significant role in providing cutting-edge technology to the nation's young scientists and will assist in advanced research in the fields of physics, earth sciences, and cosmology. Through this initiative, India is moving towards achieving new heights in research and development.

Study of the Chromosphere

Why in News:

Astronomers have achieved a significant milestone at the Kodaikanal Solar Observatory. They have mapped changes in the rotation speed of the Sun's chromosphere from the equatorial to polar regions using 100 years of daily solar data. This research has been published in the Astrophysical Journal.

About the Research:

➤ Astronomers from the Indian Institute of Astrophysics (IIA) studied features such as plages and networks in the Sun's chromosphere during this research. These features were classified based on their location in the Sun's northern and southern hemispheres, and rotation periods were analyzed accordingly.

➤ Researchers used images captured at a wavelength of 393.3 nanometers, which display the characteristics of the chromosphere.

➤ The information derived from these images provided a clear picture of differential rotation, revealing that both plages and networks have similar rotation rates.

➤ This study marks the first time scientists have measured the Sun's rotation using chromospheric network cells, aiding in the understanding of the Sun's magnetic field and its activities.

The Sun's Differential Rotation

➤ **Structure and Rotation of the Sun:** The Sun is a massive ball of plasma, meaning it is composed of ionized gases and electrons. Its outer layer, called the chromosphere, is stratified with varying temperatures and densities. The Sun's rotation affects it not like a solid object, but rather like a fluid.

➤ **Definition of Differential Rotation:** Differential rotation means that different parts of the Sun rotate at varying speeds based on their latitude. This characteristic contrasts with the symmetrical behavior of rotation seen in solid bodies.

Difference in Motion Between the Equator and Poles:

➤ **Equator:** The Sun's equatorial rotation period is 25 days. This means that the central part of the Sun is more dynamic, and the plasma particles here rotate at a faster speed.

➤ **Poles:** It takes 35 days for the polar regions to complete one rotation. The motion here is slower, leading to more stable plasma particles in the polar regions.
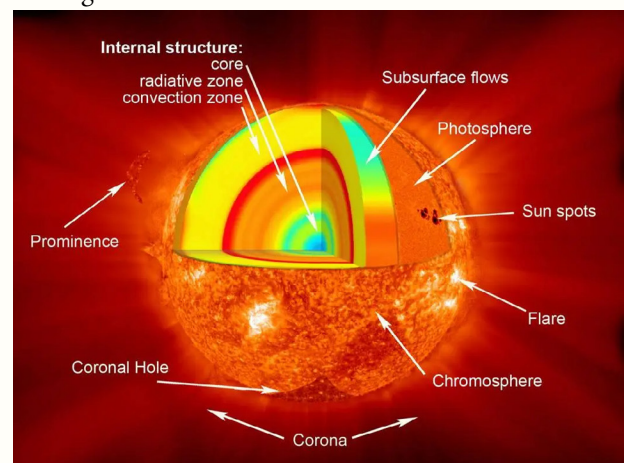
Impacts of Differential Rotation:

➤ Studying differential rotation is crucial for understanding the Sun's magnetic field and solar activities. This effect influences several important solar phenomena, such as:

➤ **Solar Storms:** Fluctuations in the Sun's magnetic field and differential rotation result in solar storms that can impact electrical systems and communications on Earth.

➤ **Solar Cycle:** The Sun exhibits an 11-year activity cycle that is affected by differential rotation.

Conclusion:

This research represents a significant step in the study of the solar system and opens new possibilities for the scientific community. It will not only help in understanding the Sun's internal workings but also aid in predicting the effects of solar activities in the future.

Night Light Pollution May Increase Alzheimer's Risk

Why in News:

A study from Rush University Medical Center, Chicago, has suggested a potential link between night-time light pollution and an increased risk of Alzheimer's disease. Researchers analyzed satellite data on light pollution in the U.S. and compared it with publicly available Medicare data on Alzheimer prevalence.

About the Study:

➢ Previous research has identified various risk factors for Alzheimer's, including genetics, medical conditions (like diabetes), and environmental stresses. This new study identifies light pollution, particularly artificial light exposure at night, as a possible additional risk factor.

Key Findings:

➢ Increased night-time light exposure was associated with a higher prevalence of Alzheimer's, particularly in early-onset cases (individuals under 65).

➢ While diabetes and hypertension were stronger predictors, light pollution showed a greater association than other risk factors like alcohol abuse, depression, obesity, heart failure, and chronic kidney disease.

Why Does Light Pollution Matter?

➢ Artificial light exposure at night disrupts the body's natural circadian rhythms, affecting sleep cycles.

➢ Poor sleep and disrupted circadian rhythms are linked to higher risks of obesity, diabetes, and depression, which also increase Alzheimer's risk.

About Alzheimer's Disease:

➢ Alzheimer's disease is a progressive neurological disorder that affects memory, thinking, and behavior. It is the most common form of dementia, accounting for 60-80% of dementia cases.

➢ Symptoms include early forgetfulness, confusion, difficulty with everyday tasks, and severe memory loss in advanced stages.

➢ There is no cure, but some medications may slow cognitive decline.

Global Impact:

➢ Over 55 million people globally suffer from dementia, with Alzheimer's accounting for 75% of these cases, according to WHO.

Status in India:

➢ An estimated 3 to 9 million people in India have Alzheimer's, with numbers expected to rise as the population ages.

Conclusion:

The connection between night-time light pollution and Alzheimer's risk highlights the importance of considering environmental factors in disease prevention. By taking proactive steps, we can reduce the burden of Alzheimer's disease and promote healthier aging.

Integration of Gravity and Quantum Mechanics

Why in News:

Researchers have achieved a significant breakthrough in integrating classical theories of gravity with quantum mechanics. This advancement brings us a step closer to a deeper understanding of the universe.

Key Points:

➢ **Calculation of Uncertainty Relations:** Researchers have calculated uncertainty relations inspired by graviton noise. The graviton is a hypothetical particle considered the mediator of gravity in quantum physics. It is massless and can travel at the speed of light.

➢ **Integration of Classical and Quantum Physics:** This progress bridges the gap between classical physics (which describes large-scale events) and quantum physics (which describes subatomic particles).

➢ **Uncertainty Principle:** The uncertainty principle, proposed by physicist Werner Heisenberg, states that it is impossible to know both the position and momentum of a particle with absolute precision simultaneously.

➢ **Implications:** If the existence of gravitons is confirmed, it could enhance our understanding of gravity and provide new insights into black holes, the structure of the universe, and other significant physical phenomena. This research may also help in understanding the behavior of gravity at a microscopic level, opening new avenues for research in black holes, cosmology, and particle physics.

Conclusion:

This significant progress highlights efforts to integrate fundamental forces and theories in physics. This research is not only important from a scientific perspective but also enriches human knowledge, aiding our understanding of the mysteries of the universe.
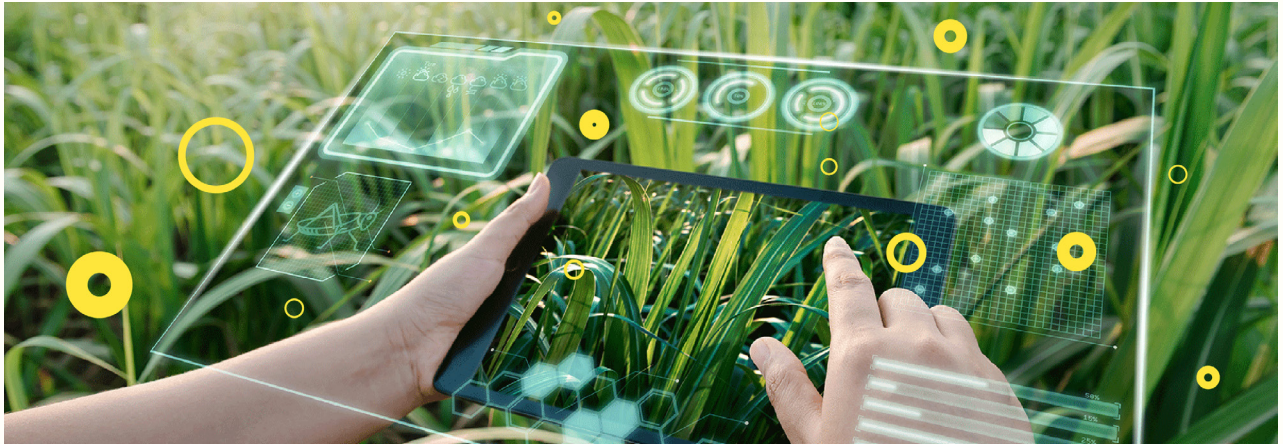
Agri-tech: Integrating Technology and Agriculture

"If I can free only one or two villages from the bonds of ignorance and weakness, there will be built, on a tiny scale, an ideal for the whole of India… Our aim must be to give these few villages complete freedom – education for all, the winds of joy blowing across the village, music and recitations going on, as in the old days…Our people need more than anything else a real scientific training that could inspire in them the courage of experiment and initiative of mind which we lack as a nation."

: Rabindranath Tagore

❖ As the global order realigns, there is an opportunity to rejuvenate various sectors using emerging technologies, like Internet of things, AI, block chain, etc. This is especially significant for agriculture, where growth is often hindered by challenges like low productivity, fragmented landholdings, and recurring issues of overproduction or underproduction, which reflect market asymmetry. Additionally, the lack of widespread adoption of good agricultural practices and reforms in farm marketing continues to persist. While these problems are well-known, they remain unresolved.

❖ Integrating technology into agriculture holds great potential, as it can not only enhance productivity but also bring farmers into the mainstream economy, aligning with the government's vision of doubling farmers' incomes. Recognizing the importance of this integration, the Government of India has initiated several measures. In her Budget speech, Finance Minister Nirmala Sitharaman mentioned facilitating the implementation of the Digital Public Infrastructure (DPI) in agriculture for coverage of farmers and their lands in three years.

❖ In this context, the Government has also approved the Rs 2,817-crore Digital Agriculture Mission, aimed at creating a robust Digital Public Infrastructure (DPI) for the farm sector. This mission marks a significant step toward modernizing Indian agriculture for long-term growth.

❖ State governments have also entered into strategic partnerships with private entities and global organizations to introduce agritech solutions. For instance, through the World Economic Forum's AI for Agricultural Innovation (AI4AI) initiative, the Telangana government launched the Saagu Baagu pilot project. This initiative leverages advanced technologies to enhance agricultural productivity.

Agritech and its emerging significance:

❖ According to the Economic Survey Indian agriculture sector provides livelihood support to about 42.3% of the population and has a share of 18.2% in the country's GDP at current prices. With the population projected to reach 1.515 billion by 2030, ensuring food security is therefore increasingly critical. Indian agriculture faces growing demands from a rising middle class and the challenges of climate change, prompting a shift toward smart technology to boost efficiency, sustainability and resilience.

❖ Agritech, an ecosystem of enterprises and startups, leverages emerging technologies like AI, machine learning, and IoT to enhance crop yields, optimize operations and improve profitability. India now hosts over 3,000 agritech startups, with 1,300 utilizing these advanced solutions to transform the agriculture value chain.

National Startup Award Winners:

❖ **Shapos Services Private Limited (Reshamandi):** Reshamandi is revolutionizing the silk supply chain by connecting sericulture farmers, reelers, and retailers. By enabling direct farmer sales, they ensure optimal pricing and quality, reducing time to market. Recognized by the Karnataka government, they use digitized solutions to improve silk production efficiency.

❖ **Agrirain Agro Industries India Private Limited:** Agrirain offers an innovative "Irrigation as a Service" model using the Hosereel, an automated, mobile raingun that conserves water while boosting crop yields. The system has already served thousands of farmers and saved millions of metric tons of water.

❖ **Zentron Labs Private Limited:** Zentron automates food grading with its product "Hortisort", which uses industrial cameras and computer vision to inspect fruits for size, color and defects. This innovation ensures high accuracy and efficiency in food processing.

❖ **Athreya Global Solutions:** AGS promotes sustainable agriculture by developing biotech solutions to improve plant yields and photosynthetic efficiency. Their efforts have been recognized by the Government of Karnataka for providing economically viable solutions to enhance farmers' livelihoods.

Benefits of AgriTech

Pest Management
- Real-time data about plant health
- Effective pest control
- Measuring the effectiveness of pesticide
- Enhancing the pesticide strategy

Water Usage
- Measuring moisture in the soil
- Automated watering when needed
- Improved water consumption
- Decreased risk of drought or over-watering

Animal Husbandry
- Tracking grazing animals
- Real-time monitoring of animals' health
- Calling a vet automatically
- Preventing disease outbreaks

Profitability
- Increased Harvest
- Shorted time to market
- Reduced human labor and expenses
- More accurate predictions and planning

Initiatives taken by India in AgriTech:

❖ **Promotion of Agri-Startups:** Ministry of Agriculture & Farmers' Welfare (MoA& FW) is implementing "Innovation and Agri-Entrepreneurship Development" programme under Rashtriya Krishi Vikas Yojana (RKVY) from 2018-19 with an objective to promote innovation and agri-entrepreneurship by providing financial and technical support for nurturing startups ecosystem in the country.

29.7% of land in India is desertified

Jammu and Kashmir: ● 20.86 ▲ 19.67
Punjab: ● 3.34 ▲ 2.87
Haryana: ● 8.24 ▲ 7.67
Delhi: ● 61.73 ▲ 60.60
Rajasthan: ● 62.06 ▲ 62.90
Gujarat: ● 52.22 ▲ 52.29
Madhya Pradesh: ● 12.52 ▲ 12.34
Maharashtra: ● 46.49 ▲ 44.93
Goa: ● 52.64 ▲ 52.13
Karnataka: ● 36.29 ▲ 36.24
Kerala: ● 10.87 ▲ 9.77
Tamil Nadu: ● 12.30 ▲ 11.87
Andhra Pradesh: ● 14.84 ▲ 14.35

Ladakh: ● 42.31 ▲ 41.12
Himachal Pradesh: ● 43.11 ▲ 43.01
Uttarakhand: ● 12.60 ▲ 12.12
Uttar Pradesh: ● 6.43 ▲ 6.35
West Bengal: ● 20.10 ▲ 19.54
Jharkhand: ● 68.77 ▲ 68.98
Odisha: ● 34.42 ▲ 34.06
Chhattisgarh: ● 17.06 ▲ 16.36
Telangana: ● 31.68 ▲ 31.34

Bihar: ● 7.93 ▲ 7.39
Arunachal Pradesh: ● 2.40 ▲ 1.84
Sikkim: ● 11.92 ▲ 11.10
Assam: ● 10.64 ▲ 9.14
Nagaland: ● 50.00 ▲ 47.45
Manipur: ● 27.44 ▲ 26.96
Mizoram: ● 13.08 ▲ 8.89
Tripura: ● 42.66 ▲ 41.69
Meghalaya: ● 24.86 ▲ 22.06

Numbers in %

● % of land under desertification in 2019 — Total **29.77%**
▲ % of land under desertification in 2013 — Total **29.32%**

❖ So far, 5 Knowledge Partners (KPs) and 24 RKVY Agribusiness Incubators (R-ABIs) have been set up for training & incubation of agri-startups and implementation of this programme.

❖ The Agri-Tech revolution is bringing innovation to farming practices, with over 6,000 agriculture startups and 2,800 Agri-Tech (like BigHaat, Fasal, MeraKisan etc.) startups recognized by DPIIT.

❖ The government has also launched the AgriSURE Fund and the Krishi Nivesh Portal. These initiatives aim to support start-ups and investors in agriculture, encouraging innovation and growth in the rural economy.

❖ **Agriculture Accelerator Fund:** Ministry of Agriculture & Farmer's Welfare has approved to set up an Agri Accelerator Fund of INR 300 crore for 3 years commencing from 2023-24 to nurture the agriculture start-up ecosystem. The Agri Accelerator Fund will help scale up start- ups with innovative technologies having the potential to modernize the agriculture ecosystem of the country.

❖ **Agri Stack:** A novel agriculture-focused DPI that India is currently in the process of implementing. AgriStack consists of a federated farmers' registry along with related digital agricultural services and applications.

Collectively, these components will support farmers and agricultural workers on the one hand, and governments and agribusinesses on the other.

❖ **Agricultural Data Exchange (ADeX):** It is an open-source, open-standard and inter-operable public good that allows data sharing between data providers and data consumers, mainly the private sector, including start-ups, to build customized services for farmers.

❖ **Digital Agriculture Mission:** This initiative was launched in 2021 to help agri-tech start-ups by leveraging advances in cloud computing, earth observation, remote sensing, data, and AI/ML models. The Digital Agriculture Mission, aimed at creating Digital Public Infrastructure (DPI) in India's agriculture sector, aligns with the government's other successful e-governance initiatives such as Aadhaar, DigiLocker, and UPI.

❖ **The Mission focuses on three key components:** AgriStack, Krishi Decision Support System (DSS), and Soil Profile Maps. These will help farmers access various services and improve the overall efficiency of agricultural operations.

❖ The DPI also includes the Digital General Crop Estimation Survey (DGCES), designed to provide accurate agricultural production estimates. A budget of Rs 2,817 crore has been allocated for the Mission, with Rs 1,940 crore from the Centre and the rest from states and Union Territories. Initially delayed by the COVID-19 pandemic, the Mission is set to be rolled out across India by 2025-26.

❖ **Agricultural Technology Management Agency (ATMA) Scheme:** It aids the State Government's initiatives to provide farmers with access to the latest agricultural technologies through various extension activities, such as training programs, demonstrations, and Kisan Melas.

International partnerships:

❖ India's agritech prowess is gradually being recognised worldwide. In 2023, India's first precision agriculture startup, Fyllo, entered into strategic partnership with Spain-based Terraview, a global climate software-as-a-service firm, to improve the productivity of wine producers across the US, Australia and Spain. This collaboration has made Fyllo, the first Indian agritech company to expand globally, and it will soon introduce smart agricultural processes to vineyards in Italy, France and Mexico too.

❖ In 2023, on the sidelines of the I2U2 Business Summit, India joined the Agriculture Innovation Mission for Climate (AIM4C) launched by the United States and United Arab Emirates, with the objective of accelerating investment and support for climate-smart agriculture and food systems innovation. Membership of the AIM4C makes India a part of a global alliance of over 275 partners. Importantly, it also serves to strengthen Indo-UAE agri-cooperation at a time when the UAE has pledged to invest US$ 2 billion in developing food parks in India to help Indian farmers find higher prices for their goods, and to create a new generation of non-farm agricultural jobs.

Challenges in Agritech adoption:

❖ **Outdated Land Records:** Many farmers have outdated land records, which can undermine the effectiveness of linking the farmer ID system to these records. This discrepancy poses a challenge in maintaining accurate and reliable agricultural data.

❖ **Data Privacy Concerns:** There are significant concerns about the potential misuse of farmers' personal data if shared with private entities. Risks include data mismanagement, breaches, and profiling. However, the effective operationalization of the Digital Personal Data Protection Act, 2023 could mitigate these risks by providing robust protection.

❖ **Digital Literacy:** Many Indian farmers lack the technical skills and hands-on experience needed to operate modern machinery and software. This gap in digital literacy hinders their ability to fully utilize advanced agricultural technologies.

❖ **Infrastructure constraints:** Rural areas often suffer from inadequate network coverage and slow internet speeds. These infrastructural limitations affect the adoption and effectiveness of agritech solutions in these regions.

❖ **Resource barriers:** A substantial number of farmers operate small landholdings and have limited financial resources. The cost of adopting advanced agritech solutions, including software and equipment, can be prohibitive.

❖ **Resistance to modern technologies:** Traditional farming methods have been deeply ingrained in rural communities for generations. Convincing farmers to embrace new technological interventions can be challenging due to this entrenched resistance.

❖ **Unemployment Concerns:** Automation in agriculture has the potential to impact local economies significantly, leading to large-scale job losses. Farming is a major source of employment in

many rural areas, and technological advancements could threaten these livelihoods.

Way forward:

❖ Agri-startups in India are innovating across various areas. These startups are leveraging cutting-edge technologies, data analytics, and sustainable practices to modernize farming techniques and address the challenges faced by traditional methods.

❖ Promoting digital literacy in agriculture should be a top priority. Farmer Producer Organisations can play a key role in this by educating farmers and facilitating

partnerships with institutional retailers and food processing companies.

❖ Fostering a robust culture of agritech research and encouraging international exchange programs will help share knowledge and best practices. With supportive policies, strategic investments, skilled tech talent, and global collaboration, India's agriculture sector can enhance its sustainability and contribute significantly to the global food system.

Short Issues

Payment Passkey Service

Why in News:

Mastercard, a global technology giant in the payment industry, has announced the worldwide launch of its new Payment Passkey Service to make online shopping more secure and easier than ever.

Purpose and Benefits:

➤ The Payment Passkey Service aims to replace traditional online payment methods like passwords and One-Time Passwords to improve security. By utilizing biometric authentication (fingerprints, facial recognition), the service addresses vulnerabilities associated with OTPs, which are increasingly targeted by scams and fraud.

➤ The service simplifies the online shopping experience. Consumers no longer need to remember or enter passwords and OTPs. Instead, they use biometric methods for a faster and more secure checkout process.

➤ It enhances consumer control and reduces the risk of password mishandling or accidental sharing, thus providing greater peace of mind during transactions.

Integration of Standards:

➤ The Payment Passkey Service combines industry standards from EMVCo, World Wide Web Consortium (W3C) and the FIDO Alliance.

➤ This integration aims to enhance the security and efficiency of the online checkout process.

Need of the Initiative:

➤ There has been a significant rise in online fraud cases,

with incidents increasing by nearly 300% in the past two years.

➤ The incidence of fraud involving card and other digital payment methods has surged by over 700%, according to the RBI's Annual Report for 2023-24.

➤ OTPs, while popular for their convenience, are increasingly vulnerable to cyber threats such as phishing, SIM swapping and message interception.

How the Payment Passkey Service Works

➤ **Checkout Process:** Shoppers can choose their Mastercard when checking out, either by selecting a card already stored securely with the merchant or by entering details as a guest.

➤ **Authentication:** Users authenticate the payment using biometric features available on their device, such as fingerprint scans, facial recognition, or a PIN.

➤ Payment Completion: After successful biometric authentication, the payment is processed immediately, ensuring a quick and secure transaction.

Conclusion:

The initial pilot phase of Mastercard's Payment Passkey Service in India marks a significant step towards transforming online payment security and convenience. With its successful integration with leading payment aggregators, online merchants, and banks in India, the service is poised to address critical security vulnerabilities associated with traditional passwords and OTPs. Following the initial pilot phase in India, Mastercard plans to extend the Payment Passkey Service to additional consumers and financial institutions worldwide in the coming months.

Vadhvan Port

Why in News:

Prime Minister Narendra Modi recently laid the foundation stone for the ambitious Vadhvan Port project in Maharashtra's Palghar district. The port, estimated to be worth around Rs 76,000 crores, is set to become one of India's largest deep-water ports.

About Vadhvan Port:

➢ The Vadhvan Port is a Greenfield infrastructure project, meaning it will be developed on previously undeveloped land. Greenfield projects allow for customized infrastructure development, as they are built from grassroot level without any existing limitations.

➢ The project is in line with the objectives of the PM Gati Shakti program, which aims to boost India's infrastructure and economic growth through efficient transportation and logistics networks.

➢ Model: The port is to be constructed using the landlord model, a model where the port authority acts as a regulatory body and landlord, while private companies are responsible for port operations.

➢ With a draft of 20 meters, the port will be able to handle mega vessels, which require deeper waters for docking and operations. This capability will position Vadhvan Port as a key hub for large container ships.

Highlights of the project:

➢ Once completed, Vadhvan Port is expected to rank among the top 10 ports globally, with a handling capacity of 23.2 million Twenty-foot Equivalent Units (TEUs.

➢ The port aims to establish itself as a world-class maritime gateway, designed to cater to large container vessels with deeper drafts, accommodating ultra-large cargo ships, thereby boosting India's international trade capabilities.

➢ Situated near Dahanu town in Palghar district, the port's location is highly strategic. It will provide direct connectivity to international shipping routes, reducing transit times and costs for shipping companies.

➢ The project is expected to create significant employment opportunities, stimulating local businesses and contributing to the overall economic development of the region. This makes it an essential project for both regional and national growth.

Significance of the Vadhvan Port Project:

➢ The Vadhvan Port will facilitate smoother Export-Import trade flows by linking India to major global trade routes such as the India-Middle East-Europe Economic Corridor (IMEC) and the International North-South Transportation Corridor (INSTC).

➢ The port will significantly reduce the turnaround time of goods, allowing for faster movement of cargo and increased trade efficiency.

Major ports (public)
Traffic, 2023-24, m tonnes   25   100   150
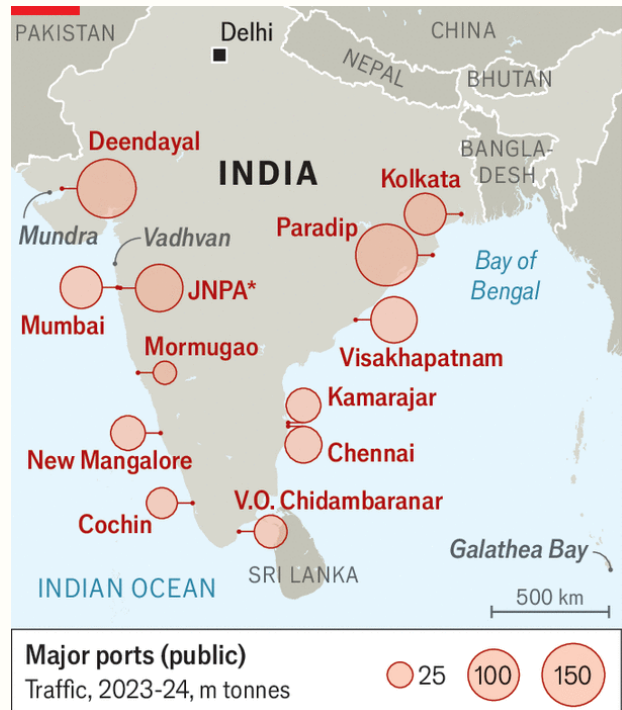
Ports in India:

➢ **Major Ports:** These are under the administrative control of the Union Ministry of Ports, Shipping, and Waterways. There are 12 functional major ports in India.

➢ **Non-Major Ports**: These ports are under the jurisdiction of respective State Maritime Boards or State Governments. There are around 200 non-major ports in the country.

Conclusion:

The Vadhvan Port project is a transformative initiative that is set to strengthen India's maritime sector, enhance trade routes, and contribute to the nation's economic growth. By aligning with global shipping standards and incorporating sustainable practices, the port will position India as a major player in international trade.

BHASKAR Initiatives

Why in News:

The Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, is set to launch a groundbreaking digital platform aimed at strengthening India's startup ecosystem.

About BHASKAR Initiative:

➢ The Bharat Startup Knowledge Access Registry (BHASKAR) initiative, part of the Startup India program, is designed to centralize and streamline collaboration among key stakeholders in the entrepreneurial ecosystem, including startups, investors, mentors, service providers, and government bodies.

➢ This platform supports the Government of India's vision to position the country as a global leader in innovation and entrepreneurship, reinforcing its commitment to the startup movement.

Key Features of BHASKAR:

➢ India is home to over 1,46,000 DPIIT-recognized startups, making it one of the world's most dynamic startup hubs. The primary goal of BHASKAR is to build the world's largest digital registry for stakeholders within the startup ecosystem. To achieve this, the platform will offer several key features:

➢ **Networking and Collaboration:** BHASKAR will bridge the gap between startups, investors, mentors, and other stakeholders, allowing for seamless interaction across sectors.

➢ **Providing Centralized Access to Resources:** By consolidating resources, the platform will provide startups with immediate access to critical tools and knowledge, enabling faster decision-making and more efficient scaling.

➢ **Creating Personalized Identification:** Every stakeholder will be assigned a unique BHASKAR ID, ensuring personalized interactions and tailored experiences across the platform.

➢ **Enhancing Discoverability:** Through powerful search features, users can easily locate relevant resources, collaborators, and opportunities, ensuring faster decision-making and action.

➢ **Supporting India's Global Brand:** BHASKAR will serve as a vehicle for promoting India's global reputation as a hub for innovation, making cross-border collaborations more accessible to startups and investors alike.

Start-Up Ecosystem:

➢ India ranks as the third-largest tech startup ecosystem globally, with over 950 new startups established in 2023 alone, contributing to a total of more than 31,000 tech startups over the past decade.

➢ From 2019 to 2023, cumulative funding exceeded USD 70 billion, highlighting strong growth and investment in the sector.

Conclusion:

The launch of BHASKAR represents a significant step in the government's efforts to promote innovation, entrepreneurship, and job creation. As a central hub, it will bring together startups, investors, service providers, and government bodies to collaborate, exchange ideas, and accelerate growth. The platform will play a crucial role in building a resilient, inclusive, and innovation-driven economy, setting the stage for a prosperous future.

SPICED Scheme

Why in News:

The Union Ministry of Commerce and Industry has approved a new scheme by the Spices Board titled "Sustainability in Spice Sector through Progressive, Innovative and Collaborative Interventions for Export Development" (SPICED). This scheme will be implemented until the end of the 15th Finance Commission's term, which extends to 2025-26.

About SPICED Scheme:

➢ The SPICED scheme is anticipated to enhance value addition and promote innovation and sustainability in the spice sector. It will introduce new sub-components and programs, including:
  » Mission Value Addition
  » Mission Clean and Safe Spices
  » Promotion of Geographical Indication (GI) spices
  » Support for entrepreneurship through Spice Incubation Centres

➢ The primary goals of the SPICED scheme are to expand the area under cardamom cultivation, increase productivity for both small and large cardamom, and generate a surplus for the export of quality spices through post-harvest improvements.

➢ Additionally, the scheme seeks to enhance the share of value-added spices in India's export basket, evaluate compliance with applicable quality and safety standards for export consignments, and

provide capacity building and skill development for stakeholders in the spices sector.

➢ The scheme encompasses several key components, including improving productivity, upgrading post-harvest quality, expanding market efforts and trade promotion, implementing technology interventions, and focusing on research and skill development.

Spice Trade in India:

➢ According to recent export data, small cardamom exports have shown a significant increase over the years, with figures of 1,850 tonnes in 2019-20, rising to 10,571 tonnes in 2021-22, before stabilizing at 6,168 tonnes (provisional) in 2023-24.

➢ Large cardamom exports have also varied, starting at 1,310 tonnes in 2019-20 and reaching 1,281 tonnes in 2023-24.

➢ Overall, spices exports from India were valued at $4,464 million for a quantity of 1,539,692 tonnes in the 2023-24 period.

➢ In terms of cultivation, small cardamom occupies 70,410 hectares with a production of 25,230 tonnes during 2023-24, while large cardamom is cultivated in 45,596 hectares, yielding 9,288 tonnes.

About Spice Board India:

➢ The Spices Board of India is an apex body established by the Government of India in 1987 under the Ministry of Commerce and Industry. It was formed by merging the Cardamom Board (1968) and the Spices Export Promotion Council (1960).

➢ The Board is responsible for promoting and overseeing the export of a diverse range of spices, including black pepper, small and large cardamom, ginger, turmeric, cinnamon, cumin, fenugreek, and more.

➢ **Headquarter:** Kochi, Kerala.

Conclusion:

The SPICED scheme represents a significant effort to enhance the spice sector in India, aiming to boost both production and exports while providing support for stakeholders in the industry. It underscores the Board's commitment to bolstering India's spice industry, improving farmer livelihoods, and solidifying India's position as a global leader in spice production, processing, and export.

AgriSURE fund

Why in News:

Union Minister Shivraj Singh Chouhan launched the AgriSURE Fund and the Krishi Nivesh Portal. These initiatives aim to support start-ups and investors in agriculture, encouraging innovation and growth in the rural economy.

About AgriSURE Fund:

➢ The AgriSURE Fund, also known as "Agri Fund for Startups & Rural Enterprises," is a key initiative designed to boost farm-sector startups. It provides financial support to start-ups that focus on agriculture-based innovations and solutions. It was first announced in the 2022-23 Budget.

Key Features:

➢ The AgriSURE Fund is a Rs 750 crore Category-II Alternative Investment Fund (AIF). It will offer both equity and debt support to startups working in the agriculture sector.

➢ The fund will receive 250 crores each from NABARD and the Ministry of Agriculture, while an additional 250 crores will come from other institutions, including private investors.

➢ The fund will be managed by NABVENTURES Ltd., a wholly owned subsidiary of NABARD, acting as the Investment Manager for the fund.

The fund operates under two key schemes:

➢ **AgriSURE – FoF (Fund of Funds) Scheme:** This scheme provides funding support to Category I and Category II Alternative Investment Funds (AIFs), which, in turn, make onward investments in start-ups.

➢ **AgriSURE – Direct Scheme:** This scheme focuses on making direct equity investments in early-stage start-ups to foster their growth and development.

Significance:

The AgriSURE Fund is expected to:

➢ Foster innovation in agriculture by encouraging new technologies and solutions.

➢ Enhance the value chain of farm produce, ensuring better returns for farmers.

➢ Create and improve rural infrastructure, supporting economic growth in rural areas.

➢ Generate employment opportunities in the rural sector, helping to reduce rural-urban migration.

➢ Support IT-based solutions for better farm management, resource utilization, and production efficiency.

About Krishi Nivesh Portal:

➢ It is an integrated, centralized and one-stop platform

for all agricultural investors. It is designed to enable investors to access information and benefits from various government schemes, facilitating easier investment processes in the agriculture sector.

Challenges Faced by Rural Startups:

- **Technological Awareness:** The lack of awareness about modern technologies, as well as the absence of comprehensive training programs and support services, hampers the growth of rural start-ups. This results in slower adoption of innovative solutions.
- **Lack of Financial Accessibility:** Many financial institutions are reluctant to lend to rural entrepreneurs. Additionally, there is limited availability of banking services in rural areas, making it harder for start-ups to secure the necessary funding.
- **Logistical and Connectivity Constraints:** Entrepreneurs often face difficulties in purchasing raw materials and other resources due to poor connectivity and logistical challenges in rural regions.

Conclusion:

The launch of the AgriSURE Fund and Krishi Nivesh Portal marks a pivotal step in supporting the growth of agriculture-related start-ups and rural enterprises. By addressing some of the challenges faced by rural entrepreneurs, these initiatives aim to boost innovation, enhance the agricultural value chain, and foster economic growth in rural India. However, ensuring widespread awareness and access to these schemes will be crucial to their success.

India's Economic Growth

Why in News:

The Asian Development Bank (ADB) has projected a sustained strong growth for India's economy, forecasting a 7 per cent increase in gross domestic product for the financial year 2024 and 7.2 per cent for FY2025.

Highlights of the Report:

Debt Reduction:

- The report said, with the government's fiscal consolidation efforts, central government debt is projected to decrease from 58.2% of GDP in FY2023 to 56.8% in FY2024.
- The general government deficit, which includes state governments, is expected to fall below 8% of GDP in FY2024.

Inflationary Forecast:

- Consumer inflation is anticipated to rise to 4.7 per cent in FY2024 due to elevated food prices, despite higher agriculture output expectations.
- The ADB, highlighted that the elevated inflation has prevented the Reserve Bank of India (RBI) from lowering the policy interest rates.

Capital Expenditure:

- A rise of 17% in central government capital expenditure in FY2024 compared to the previous fiscal year together with transfers to state governments will boost infrastructure investment.
- A new government initiative to support urban housing for middle-income households is expected to further spur housing growth.
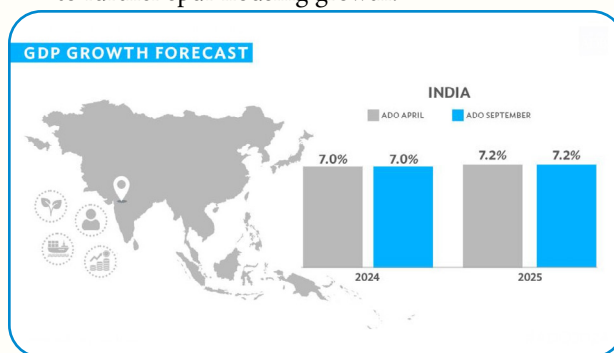
Current Account Deficit:

- India's current account deficit is forecast to be 1.0 per cent of GDP in FY2024 and 1.2 per cent in FY2025, down from the previous forecast of 1.7 per cent for both years, due to better exports, lower imports, and strong remittance inflows.

Service Indicators:

- Services continued to expand robustly in Q4 of FY24, and the forward-looking services PMI is well above its long-term average.

Forecast for Asia Pacific Including China:

- In its report, ADB marked China's growth forecast at 4.8 per cent for this year.
- For overall Asia, it slightly raised its economic growth forecast for developing Asia and the Pacific this year to 5 per cent from a previous projection of 4.9 per cent.

Way Forward:

For India's economics growth potential near-term growth risks include geopolitical tensions that could disrupt global supply chains and affect commodity prices, as well as weather-related challenges impacting agricultural production.

Economic Performance Report of Indian States

Why in News:

Recently Relative Economic Performance of Indian States: 1960-61 to 2023-24' paper has been released by the Economic Advisory Council to the Prime Minister (EAC-PM).

Key Findings of the EAC-PM Report:

Share of Sates in India's GDP and Per Capita Income of the States:

Southern States:

➢ Karnataka's share in GDP is projected to be 8.2 per cent in 2023-24, Andhra Pradesh 9.7 per cent, Tamil Nadu 8.9 per cent while Kerala's share has declined to 3.8 per cent in 2023-24.

➢ While Telangana stands at 193.6 per cent in relative per capita income, Karnataka, Tamil Nadu, Andhra Pradesh and Kerala are at 181 per cent, 171 per cent, 131.6 per cent and 152.5 per cent of the national average, respectively.

Western States:

➢ Gujarat's share in GDP in 2023-24 is 8.1 per cent, while Maharashtra's share is 13.3 per cent and Goa's share is 0.3 per cent.

➢ Gujarat's per capita income has risen to 160.7 percent of the national average, while Maharashtra's is 50 percent. Another state Goa's has risen to 290 percent. It is the richest state in India in terms of per capita income.

Northern States:

➢ Delhi's share in India's GDP is 3.6 percent, while Haryana, Punjab and Rajasthan contribute 3.6, 2.4 and 5.0 percent respectively.

➢ Delhi's relative per capita income is 250.8 percent, while Punjab's is 106.7 percent and Rajasthan's is 91.02%. Haryana has the fourth highest relative per capita income with 176.8 percent.

Central States:

➢ Uttar Pradesh's GDP is projected to grow marginally to 8.4 per cent in 2023-24, while that of Madhya Pradesh's is just 4.5%.

➢ Uttar Pradesh's per capita income in 2023-24 is only 50.8 per cent of the national average. Madhya Pradesh has reversed a five-decade decline and has stabilised at 77.4 per cent.

Eastern States:

➢ West Bengal's share in GDP has dropped to only 5.6 percent in 2023-24. It has seen a steady decline throughout this period. While Bihar and Odisha's share has remained at 2.8%.

➢ West Bengal's per capita income has declined from 127.5 percent to 83.7 percent in 2023-24. While Odisha's share has gone up to 88.5 percent in 2023-24.

Way Forward:

The western and southern regions of India have performed significantly better than other parts of the country. Overall, the maritime states have performed clearly better than other states except West Bengal.

PM E-Drive Scheme

Why in News:

Union Cabinet approved the PM Electric Drive Revolution (PM E-Drive) Scheme for Innovative Vehicle Enhancement. Proposed by the Ministry of Heavy Industries, this scheme will entail an expenditure of 10,900 crore over two years. Its primary objective is to promote electric mobility across the country.

More Information:

➢ The PM E-Drive Scheme will replace the FAME (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) scheme, which was launched in April 2015 and lasted for nine years in two phases.

➢ In the second phase, which concluded on March 31, 2024, the government supported 1,321,800 electric vehicles with subsidies totaling 11,500 crore.

Key Features of the PM E-Drive Scheme:

➢ **Subsidies and Demand Incentives:** A total budget of 3,679 crore has been allocated to encourage the purchase of electric two-wheelers, three-wheelers, ambulances, trucks, and buses.

➢ **E-Voucher System:** After purchase, electric vehicle buyers will receive an Aadhaar-verified e-voucher on their registered mobile numbers, providing them with financial benefits.

➢ **Deployment of E-Ambulances:** An allocation of 500 crore has been made for e-ambulances, aimed at introducing eco-friendly and comfortable electric ambulances. New performance and safety standards will be established in consultation with the Ministry of Health and Family Welfare and the Ministry of Road Transport and Highways.

➢ **E-Buses for Public Transport:** A budget of 4,391 crore has been allocated for the purchase of 14,028

e-buses for state transport undertakings and public transport agencies. Convergence Energy Services Limited, a subsidiary of the Government of India, will oversee this scheme in major cities.

➢ **Incentives for E-Trucks:** A budget of 500 crore has been allocated to promote electric trucks, which will help reduce air pollution.

➢ **Charging Infrastructure:** 2,000 crore has been allocated for the development of charging infrastructure, aimed at establishing public charging stations in cities with high EV penetration and on selected highways.

Benefits of the PM E-Drive Scheme:

➢ The use of electric vehicles will help reduce air pollution, improving health and assisting in addressing climate change issues.

➢ Consumers will receive financial assistance through subsidies and incentives, making it easier to purchase electric vehicles.

➢ The deployment of e-ambulances will enhance healthcare services, facilitating quicker and more efficient patient transport.

➢ The manufacturing of electric vehicles and the development of charging infrastructure will create new job opportunities at the local level.

➢ Promoting research and innovation in battery and electric vehicle technology will enhance the country's technical capabilities.

➢ The purchase of e-buses will improve the public transport system, enhancing travel quality and sustainability.

Conclusion

The PM E-Drive Scheme is a significant step that will help advance India towards electric mobility. If implemented effectively, it will not only aid in environmental protection but also strengthen India's economy.

World Employment and Social Outlook

Why in News:

The International Labour Organisation has released its latest report, "World Employment and Social Outlook: September 2024 Update," which provides a comprehensive analysis of global labor income trends and the effects of technological innovations over the past two decades. This update offers critical insights into the ongoing challenges faced by labor markets worldwide.

Key Findings:

Technological Innovations and Labor Productivity:

➢ Technological innovations have led to persistent increases in labor productivity and output.

➢ These advancements have contributed to a reduction in the labor income share.

Decline in Labor Income Share:

➢ Global labor income share fell by 0.6 percentage points from 2019 to 2022.

➢ Decline in labor income share reflects a shift in income distribution away from workers towards capital owners.

Impact of COVID-19 Pandemic:

➢ COVID-19 pandemic was a significant driver of the decline in labor income share.

➢ Nearly 40% of the reduction occurred during the pandemic years of 2020 to 2022.

➢ Pandemic exacerbated existing inequalities, with capital income increasingly concentrated among the wealthiest individuals and entities.

➢ Shift undermined efforts to achieve Sustainable Development Goal (SDG) 10, aiming to reduce inequality within and among countries.

Technological Disruption and Inequality:

➢ Technological innovations have enhanced productivity but contributed to growing inequality.

➢ Automation and digital technologies have displaced some jobs and reduced workers' bargaining power, particularly in lower-wage sectors.

➢ Benefits of technological progress have been unevenly distributed, with capital owners reaping more advantages, High-skill workers reaping more advantages compared to low-skill workers.

Recommendations of ILO:

➢ Implement policies to address widening inequality gap.

➢ Ensure equitable distribution of gains from technological progress.

➢ Enhance vocational training, education and reskilling programs.

➢ Strengthen social safety nets and income redistribution mechanisms.

➢ Promote inclusive growth strategies that:
  » Integrate technological advancements.
  » Safeguard labor rights.
  » Ensure fair income distribution.

Conclusion:

The report calls for urgent policy action to address

declining labor income and rising inequality, exacerbated by COVID-19. Inclusive growth, fair income distribution and protection of labor rights are essential for wellbeing of whole country. .

New Report on Edible Oils by NITI Aayog

Why in News:

NITI Aayog has released a report titled "Pathways and Strategies for Accelerating Growth in Edible Oils towards Goal of Atmanirbharta," analyzing the current landscape and future prospects of India's edible oil sector. The report aims to reduce the demand-supply gap and provide a comprehensive roadmap for achieving self-reliance.

Key Points of the Report:

Oilseed Production and Sector:
➢ Nine major oilseed crops (Groundnut, Rapeseed, Soybean, Sunflower, Sesame, Safflower, Niger seed, Castor, and Linseed) cover 14.3% of the cultivated area, contributing 12-13% of dietary energy and about 8% of agricultural exports.
➢ Soybean contributes 34% to the total oilseed production, followed by Rapeseed-Mustard at 31% and Groundnut at 27%.
➢ Rajasthan and Madhya Pradesh are the largest producing states, each contributing approximately 21.42% to national production.

Growth and Import Dependence:
➢ Per capita consumption of edible oil has increased to 19.7 kg/year over the past decade.
➢ Domestic production meets only 40-45% of the demand, leading to increased imports, which rose from 1.47 million tons in 1986-87 to 16.5 million tons in 2022-23, resulting in an import dependency ratio of 57%.

Growth Trends:
➢ From 1980-81 to 2022-23, the growth rates for the oilseed sector, production, and yields were 0.90%, 2.84%, and 1.91%, respectively.
➢ The report projects that by 2030, the production of major oilseeds could reach 43 million tons and 55 million tons by 2047, up from the current 37 million tons.

Necessary Steps for Achieving Self-Reliance:

Crop Diversity and Regional Expansion:
➢ Maintaining and diversifying oilseed crops could increase production by 20%, resulting in an additional 7.36 million tons and reducing imports by 2.1 million tons.

Horizontal and Vertical Expansion:
➢ **Horizontal Expansion:** Oilseeds and palm plants can be cultivated on unused rice land and wasteland, which could boost production.
➢ **Vertical Expansion:** Yield can be increased through better agricultural practices, high-quality seeds, and advanced technologies.

State-Wise Quadrant Approach:
➢ The report identifies various state groups and suggests strategies for achieving self-reliance:
  » **High Area-High Yield States:** Focus on efficiency and adopting global best practices.
  » **High Area-Low Yield States:** Implement vertical expansion strategies.
  » **Low Area-High Yield States:** Prioritize horizontal expansion.
  » **Low Area-Low Yield States:** Implement both types of expansion (horizontal and vertical).

Challenges in the Edible Oil Sector:

➢ 76% of oilseed farming depends on rainfall, making it vulnerable to erratic weather patterns.
➢ India relies on imports for 60% of its edible oil needs, with palm oil, soybean oil, and sunflower oil being the major contributors.
➢ Low import duties negatively impact the price realization for domestic oilseed farmers.

Recommendations by NITI Aayog:

➢ **Promoting Oilseed Development in Bundelkhand and Indo-Gangetic Plains:** Encouraging oilseed cultivation in these regions and utilizing wastelands will be beneficial.
➢ **Enhancing Palm Oil Sector Efficiency:** Promoting the cultivation of palm oil on suitable wasteland and ensuring effective resource utilization is crucial.
➢ **Improving Seed Quality and Processing:** Optimizing seed utility, modernizing processing infrastructure, and enhancing the capacity of solvent extraction plants can increase production.

Conclusion:

Achieving self-reliance in India's edible oil sector requires strategic interventions focusing on crop diversity, horizontal and vertical expansion, and modern processing techniques. By adopting these measures, India can reduce its import dependence and meet future demand effectively.

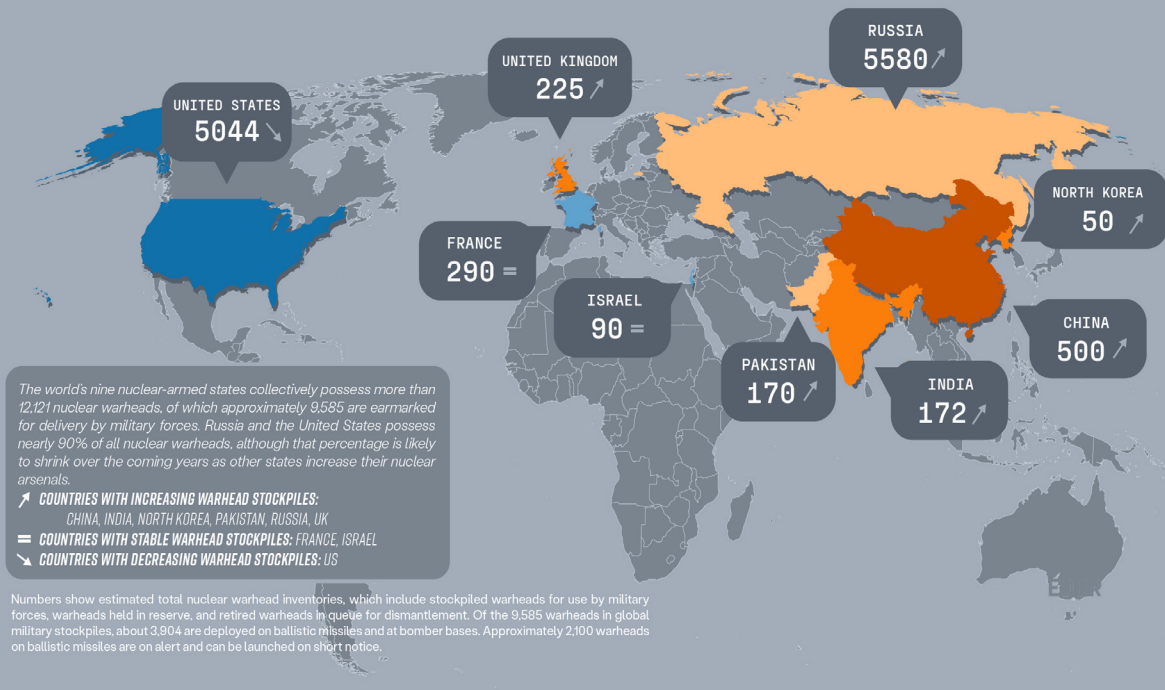# India at the Olympics: Exploring Performance Trends and Key Milestones

On September 26, the International Day for the Total Elimination of Nuclear Weapons is observed, coinciding with discussions on the Treaty on the Prohibition of Nuclear Weapons (TPNW) during the UN General Assembly. This session provides a critical opportunity to assess the global nuclear landscape, especially amidst ongoing conflicts such as the war in Ukraine, the Israel-Palestine conflict, and rising concerns over climate change. The debate surrounding nuclear weapons is intricately linked to these crises, making the responses of countries like India, which has not joined the TPNW, highly significant. Support for the treaty could advance the goal of total nuclear disarmament, while opposition may deepen reliance on nuclear arsenals and increase the risk of their use.

Historically, the Nuclear Test-Ban Treaty, signed in 1963 by the United States, the Soviet Union and the United Kingdom, prohibits all nuclear weapon tests except for underground ones. Meanwhile, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) permits only the five nations that manufactured and detonated a nuclear weapon before January 1, 1967—China, France, Russia, the UK, and the US—to retain their arsenals. India opposes this discriminatory disarmament policy, advocating for a total ban on nuclear weapons, which is why it has refrained from signing the NPT.

Treaties Related to Nuclear Disarmament:

❖ **Treaty on the Non-Proliferation of Nuclear Weapons (NPT):** Signed in 1968 and entering into force in 1970, the NPT aims to prevent the spread of nuclear weapons and promote disarmament. It divides the world into two categories: nuclear-weapon states (NWS), which were recognized as possessing nuclear weapons at the time of the treaty's signing, and non-nuclear-weapon states (NNWS), which agree not to develop or acquire nuclear weapons. The treaty requires NWS to pursue disarmament negotiations in good faith, making it a cornerstone of global non-proliferation efforts.

❖ **Treaty on the Prohibition of Nuclear Weapons (TPNW):** Adopted by the United Nations in 2017 and opened for signature in 2018, the TPNW represents a major step toward nuclear disarmament. It prohibits the development, testing, production, stockpiling, stationing, transfer, use, and threat of use of nuclear weapons. However, it has not been signed by any nuclear-armed states, limiting its immediate impact but underscoring a global push for a world free of nuclear weapons.

❖ **Comprehensive Nuclear-Test-Ban Treaty (CTBT):** Opened for signature in 1996, the CTBT seeks to ban all nuclear explosions for both civilian and military purposes. Though the treaty has been signed by 185 countries and ratified by 170, it has not yet entered into force, as key nuclear-armed states must ratify it for the treaty to become operational. Its goal remains to curb the development and refinement of nuclear weapons through testing.

❖ **Outer Space Treaty:** This multilateral agreement, which entered into force in 1967, bans the placement of weapons of mass destruction, including nuclear weapons, in outer space. All nine states believed to possess nuclear weapons are parties to this treaty, helping to ensure that space remains free from nuclear militarization.

❖ **The Treaty on the Prohibition of Nuclear Weapons (TPNW):** The TPNW, which took effect in 2021, marks a new phase in the global nuclear debate. It prohibits the development, testing, production, stockpiling, transfer, use, and even the threat of using nuclear weapons. This sets it apart from the NPT, which primarily focuses on preventing the spread of nuclear weapons and only loosely refers to

Estimated Global Nuclear Warhead Inventories, 2024

UNITED STATES
5044 ↘

UNITED KINGDOM
225 ↗

RUSSIA
5580 ↗

FRANCE
290 =

ISRAEL
90 =

NORTH KOREA
50 ↗

PAKISTAN
170 ↗

INDIA
172 ↗

CHINA
500 ↗

The world's nine nuclear-armed states collectively possess more than 12,121 nuclear warheads, of which approximately 9,585 are earmarked for delivery by military forces. Russia and the United States possess nearly 90% of all nuclear warheads, although that percentage is likely to shrink over the coming years as other states increase their nuclear arsenals.

↗ COUNTRIES WITH INCREASING WARHEAD STOCKPILES:
CHINA, INDIA, NORTH KOREA, PAKISTAN, RUSSIA, UK
= COUNTRIES WITH STABLE WARHEAD STOCKPILES: FRANCE, ISRAEL
↘ COUNTRIES WITH DECREASING WARHEAD STOCKPILES: US

Numbers show estimated total nuclear warhead inventories, which include stockpiled warheads for use by military forces, warheads held in reserve, and retired warheads in queue for dismantlement. Of the 9,585 warheads in global military stockpiles, about 3,904 are deployed on ballistic missiles and at bomber bases. Approximately 2,100 warheads on ballistic missiles are on alert and can be launched on short notice.

disarmament, leaving the issue of nuclear deterrence unaddressed.

❖ The TPNW emerged from the Humanitarian Initiative, a coalition of UN agencies and NGOs that aimed to raise awareness about the catastrophic impact of nuclear weapons on human health and the environment. In 2017, the UN General Assembly organized a conference to negotiate a "legally binding instrument to prohibit nuclear weapons." The result was the TPNW, the first treaty to legally ban nuclear weapons.

❖ Despite its importance, the TPNW was adopted without the involvement of nuclear-armed states or their allies, many of whom opposed it and do not recognize it as customary international law. This has positioned them as "persistent objectors" to the treaty's goals. However, nuclear risks and developments—such as Russia's nuclear posturing, China's growing arsenal, Iran's uranium enrichment, and North Korea's missile tests—have reignited the global conversation on nuclear weapons.

❖ A notable call for action came from former officials from NATO countries, including two former NATO Secretaries-General, urging their nations to join the TPNW and align the legal status of nuclear weapons with that of chemical and biological weapons. As of July 2024, 70 countries had ratified the TPNW, and an additional 27 had signed but not yet ratified it, representing nearly half of the global framework governing weapons of mass destruction.

India's Nuclear Programme:

❖ India's nuclear weapons programme arose from a combination of security concerns and a desire for international recognition. India believed that developing nuclear capabilities was essential to deter potential adversaries and ensure national security. The catalyst for India's nuclear ambitions was its direct experience with nuclear threats, particularly:

» **Chinese Nuclear Testing (1964):** India was directly impacted by China's nuclear tests, prompting concerns over regional security.

» **Nuclear Blackmail from Pakistan:** India also faced nuclear intimidation from Pakistan, further motivating the need for a deterrent.

❖ India's nuclear journey began with its first nuclear test, Smiling Buddha (1974), marking a pivotal

moment in its defense strategy. Following this:

» **Operation Shakti (1998):** A series of nuclear tests were conducted at Pokhran, codenamed Operation Shakti. This operation signaled India's formal entry into the global nuclear weapons club. Since then, India has developed a nuclear triad, ensuring the capability to deliver nuclear weapons from land-based, sea-based, and air-based platforms.

India's Approach to Nuclear Weapons:

India's approach to nuclear weapons is governed by several key principles:

❖ **Credible Minimum Deterrence:** India maintains a nuclear arsenal that is sufficient for deterrence but not excessively large. The goal is to avoid threatening other countries while ensuring national security.

❖ **No First Use:** India has a declared no-first-use policy, meaning it will not initiate the use of nuclear weapons. Nuclear weapons would only be used in retaliation if India is attacked first by nuclear weapons.

❖ **Non-Use Against Non-Nuclear Weapon States:** India has committed to not using nuclear weapons against countries that do not possess them, demonstrating its focus on responsible nuclear use.

❖ **Retaliation Only:** India's nuclear doctrine asserts that its nuclear weapons are strictly for deterrence, and any use would be retaliatory in nature, not offensive.

❖ **Multilateral Legal Arrangements:** India is open to converting these commitments into multilateral legal frameworks, reflecting its readiness to contribute to global nuclear disarmament efforts.

Changing Dynamics in Nuclear Deterrence:

❖ Recent geopolitical events have prompted a reevaluation of nuclear deterrence. Despite the close ties between China and Russia, Chinese President Xi Jinping publicly opposed Putin's nuclear threats. Meanwhile, the US maintained that it would respond appropriately to nuclear provocations without explicitly suggesting a nuclear response. This approach indicates that nuclear threats may be countered without resorting to nuclear weapons, challenging the long-held belief that nuclear arsenals are necessary for deterrence.

India's Position on Nuclear Disarmament:

❖ India has consistently refrained from joining the TPNW, citing concerns about the treaty's enforcement mechanisms and its exclusion of nuclear-armed states. While India views the NPT as discriminatory, it has benefited from the NPT's role in limiting the spread of nuclear weapons and has not actively undermined it. Other nuclear-armed states could similarly maintain distance from the TPNW without directly opposing it.

❖ While the TPNW has its limitations, particularly the absence of a strong enforcement mechanism, its potential to delegitimize nuclear weapons cannot be ignored. The treaty may succeed in placing nuclear weapons alongside chemical and biological weapons as pariah tools of war, improving global security in the long run. However, this shift will take time and will not occur in the near future.

Key Steps for Advancing the TPNW:

❖ **Encouraging Ratification:** More countries need to ratify the TPNW to enhance its global legitimacy. Special efforts should be made to engage nations that have signed but not yet ratified the treaty.

❖ Building Normative Support: Advocacy efforts should focus on establishing a global norm against nuclear weapons, questioning the need for nuclear deterrence strategies.

❖ Engaging Nuclear-Armed States: While these states have stayed out of the TPNW, initiating dialogue with them is crucial for advancing meaningful disarmament discussions.

❖ Monitoring Compliance: Implementing mechanisms to monitor and report on compliance is essential for ensuring the treaty's effectiveness.

❖ Promoting Education and Advocacy: Raising public awareness about the dangers of nuclear weapons can foster grassroots support for disarmament.

The TPNW offers a significant opportunity to advance global nuclear disarmament. By promoting ratification, engaging nuclear-armed states in dialogue, and raising awareness, the treaty has the potential to reshape attitudes toward nuclear weapons and enhance international security. Although progress will be slow, the TPNW could eventually lead to the complete elimination of nuclear arsenals, creating a safer world.

Short Issues

Status Road Safety in India

Why in News:

The "India Status Report on Road Safety 2024" released by IIT Delhi's Trip Centre has presented a comprehensive analysis of India's road safety scenario. The report draws attention to the lack of accurate data and robust safety measures, highlighting India's slow progress and regional disparities in reducing road accidents.

Key findings of the report:

- In 2021, road traffic accidents were the 13th leading cause of death in India and the 12th leading cause in terms of disability-adjusted life years (DALYs).
- Six states—Uttar Pradesh, Maharashtra, Madhya Pradesh, Karnataka, Rajasthan, and Tamil Nadu—accounted for nearly 50% of total accidents.
- According to the report, pedestrians, cyclists and motorcyclists are most at risk, while trucks lead the list of fatal accidents.
- Helmet usage among motorised two-wheeler riders

State wise summary:

Category	State	Key Points	Severity (per 100,000 people)
States with high fatality rate	Tamil Nadu, Telangana, Chhattisgarh	➤ Highest road accident fatality rate ➤ Major causes: speeding, overloading, lack of proper traffic safety measures	Tamil Nadu: 21.9 Telangana: 19.2 Chhattisgarh: 17.6
States with low fatality rate	West Bengal, Bihar	➤ Lowest road accident fatality rate ➤ Due to better traffic rule compliance and more vigilance	West Bengal: 5.9 Bihar: 5.9
States with high accident rate	Uttar Pradesh, Maharashtra, Madhya Pradesh, Karnataka, Rajasthan, Tamil Nadu	➤ These states account for nearly 50% of the total accidents ➤ Inadequate maintenance of roads and busy roads are major factors.	N/A

is less than 50% in all states except seven, whereas helmets are a simple and effective safety measure to reduce fatalities and serious injuries.

- Only eight states have audited more than half the length of their national highways, while the rest have done even less. Basic traffic safety measures, including traffic smoothening, markings and signals, are inadequate in most states.

India's global road safety status:

- In 1990, the number of Indians dying in road accidents was 40% higher than countries like Sweden.
- By 2021, this figure rose to 600%.
- Scandinavian countries, such as Sweden, have achieved remarkable success in road safety governance, resulting in a reduction in road accidents. They have consistent and effective policies, high safety standards and a strong framework of awareness campaigns.

Challenges in Road Safety Management:

- **Inadequate safety measures:** Despite the known effectiveness of safety measures such as helmets, their use is low, especially in rural areas.
- **High-risk groups:** Motorcyclists, cyclists and pedestrians are identified as the most vulnerable groups in road traffic accidents.
- **Inadequate trauma care:** The report highlights the inadequacy of trauma care facilities in India.
- **Data limitations:** The absence of a national accident-level database hampers the ability to accurately track and analyse road traffic incidents.

The Remedies:

➤ **Tailored regional strategies:** Given the significant disparities in road safety performance across states, the report advocates tailored strategies that address the specific needs and challenges of different regions.

➤ **Establishment of a national database for fatal accidents:** A comprehensive national database would enable detailed analysis of road traffic accidents and help identify specific risk factors and the effectiveness of various interventions.

➤ **Public awareness and education:** Raising public awareness towards road safety and encouraging responsible behaviour among road users is an integral part of road safety strategies. Through educative campaigns and community participation, people will understand the importance of road rules.

Safety first

In 2021, road traffic injuries were the 13th leading cause of death in India and the 12th leading cause of health loss.

Percentage of road traffic deaths by victims mode of transport in six States

	Chhattisgarh	Chandigarh	Delhi	Haryana	Maharashtra	Uttarakhand
Pedestrian	19	23	44	29	24	28
Bicycle	4	13	3	3	1	3
Motorised two-wheeler	58	51	40	47	58	48
Motorised three-wheeler	1	7	4	3	1	3
Car	4	4	5	8	6	7
Bus	1	1	0	1	1	4
Truck	5	1	2	5	5	4
Farm tractor	6	0	0	2	2	0
Others	0	1	1	1	2	1
Unknown	0	1	1	0	0	1
Total (%)	100	100	100	100	100	100

Percentage of road traffic deaths by type of impacting vehicle in six States

	Chhattisgarh	Chandigarh	Delhi	Haryana	Maharashtra	Uttarakhand
Bicycle	0	0	1	0	1	0
Motorised two-wheeler	13	11	6	10	14	10
Motorised three-wheeler	0	7	2	1	0	1
Car	7	36	14	25	14	21
Bus	3	5	6	4	4	7
Truck	24	12	18	32	27	28
Farm tractor	5	1	1	7	4	6
Others	11	12	5	1	5	2
None	16	9	3	2	16	5
Unknown	18	9	45	17	15	21
Total (%)	100	100	100	100	100	100

Source: India Status Report on Road Safety 2024

Conclusion:

The "India Status Report on Road Safety 2024" highlights the serious challenges of road safety in India. Despite improvements, more efforts are needed to protect vulnerable road users and meet international standards. India can reduce road accidents by implementing a national accident monitoring system, effective implementation of safety measures, and adopting regional strategies. The report also stresses the need for collective efforts to ensure safer roads for all.

Rule 170 of Drugs Act

Why in News:

In a Supreme Court hearing involving Patanjali Ayurved, Justices Hima Kohli and Sandeep Mehta criticized the AYUSH Ministry for issuing a notification on July 1, instructing state licensing authorities to refrain from enforcing Rule 170 of the Drugs and Cosmetics Act.

What is Rule 170?

➤ Rule 170 was introduced by the government in 2018 to control misleading advertisements related to AYUSH products (Ayurvedic, Siddha, and Unani medicines). The rule was introduced following recommendations from a parliamentary standing committee, which highlighted the growing problem of misleading advertisements in the AYUSH sector.

Key Provisions:

➤ The rule prohibits AYUSH drug manufacturers from advertising products without the approval and allotment of a unique identification number by the state licensing authority.

➤ It requires manufacturers to submit references and rationales from authoritative texts, along with evidence of safety, effectiveness, and quality.

Reasons for rejecting advertisements:

➤ Lack of contact details.
➤ Obscene or vulgar content.
➤ Claims related to enhancement of sexual organs.
➤ Use of photographs/testimonials from celebrities or government officials.
➤ Reference to government organizations.
➤ Misleading or exaggerated claims.

Challenges in Regulating AYUSH Drugs:

➤ **Licensing Requirements:** AYUSH drug manufacturers, like their allopathic counterparts, are required to obtain a license from the drug controller. However, unlike allopathic medicines, AYUSH drugs do not need to undergo clinical trials (Phases I, II, and III) or equivalence studies for generic versions before approval. Most AYUSH drugs can be approved based on references from authoritative texts specific to the traditional medical stream.

➤ **Safety Trials:** Safety trials are required only for AYUSH formulations containing specific ingredients (e.g., snake venom, heavy metals like arsenic and

mercury) listed in the Drugs and Cosmetics Act.

- ➤ **Effectiveness Proof:** For drugs containing specific ingredients or traditional drugs used for new indications, proof of effectiveness is required under the Act.

Recommendation to Omit Rule 170:

- ➤ The Ayurvedic, Siddha, and Unani Drugs Technical Advisory Board (ASUDTAB), an expert regulatory body that recommends actions related to regulation of AYUSH drugs, recommended omitting Rule 170 during a May 2023 meeting.
- ➤ It argued that Rule 170 could be removed since amendments in the Drugs and Magic Remedies Act another law dealing with misleading advertisements was being handled by the health and AYUSH ministries.

Conclusion:

Rule 170 of the Drugs and Cosmetics Act was established to curb misleading advertisements in the AYUSH sector, but its future is uncertain due to the ongoing Supreme Court case and recommendations from regulatory bodies. The AYUSH ministry's decision to relax enforcement highlights the complexities involved in regulating traditional medicines and balancing public health concerns with industry needs.

Global Micronutrient Deficiency

Why in News:

According to the article 'Global estimation of dietary micronutrient inadequacies: a modelling analysis' published in The Lancet, Indian population's consumption of 15 dietary micronutrients is inadequate. Except for a small segment, most people in the world did not consume enough essential micronutrients.

Highlights of the article:

- ➤ The analysis provided the first global estimates of inadequate micronutrient intakes, revealing significant gaps in nutrition worldwide. According to the study:
  - » Over 5 billion people (68% of global population) do not consume enough iodine.
  - » 67% of people have inadequate vitamin E intake, and 66% do not get enough calcium.
  - » More than 4 billion people (65% of the population) are deficient in iron, while 55% lack sufficient riboflavin, 54% in folate, and 53% in vitamin C.
- ➤ Gender differences in micronutrient deficiencies within the same country and age groups:
  - » Women had higher rates of inadequate intake for iodine, vitamin B12, iron, and selenium compared to men.
  - » The imbalance was especially pronounced for women when it came to calcium, riboflavin, vitamin E, and folate across most regions.
  - » In contrast, men showed higher rates of deficiency for magnesium, vitamin B6, zinc, vitamin C, vitamin A, thiamin, and niacin.
  - » Researchers emphasized that this analysis improves understanding of global micronutrient inadequacy and can guide public health interventions to address these deficiencies more effectively.

Conclusion:

The study underscores the importance of maintaining a balanced diet, especially for vegetarians, and points out that red meat in non-vegetarian diets offers better micronutrient content compared to chicken or fish. It also highlights improvements in children's health due to increased access to nutritious food, though some still suffer from inborn errors in metabolism. Micronutrients, which are absorbed from food in small amounts, play a vital role in overall health.

Second summit on Responsible Use of Artificial Intelligence in the Military Domain

Why in News:

China opted out of the 'Blueprint for Action' agreement which seeks to ban artificial intelligence from controlling nuclear weapons. The agreement was adopted at the Responsible AI in the Military Domain summit in Seoul on Tuesday where over 100 countries including the US were present.

About REAIM Summit:

- ➤ The summit on Responsible Use of Artificial Intelligence in the Military Domain (REAIM), held

in Seoul, South Korea, in September 2024, is part of global diplomacy to shape norms on military AI applications.

➢ It is co-hosted by Kenya, the Netherlands, Singapore, and the United Kingdom, the summit involves governments, international organizations, tech companies, academia, and civil society.

➢ This is the second summit, with the first occurring in February 2023 in The Hague, Netherlands. Although the first summit did not produce dramatic outcomes, it broadened the debate on military AI by engaging a wider range of stakeholders.

➢ Russia was excluded from the summit due to its ongoing invasion of Ukraine.

Focus of such summit:

➢ REAIM emphasizes the "responsible use" of AI, rather than reversing its military applications. The REAIM process is one of several efforts—at national, bilateral, plurilateral and multilateral levels—to promote responsible AI use. It expands the debate beyond "killer robots" to include a broader range of issues.

➢ AI systems are now used in intelligence, surveillance, and reconnaissance in warfare. Leading militaries have found AI useful for:
  » Collecting and analyzing battlefield data
  » Improving situational awareness
  » Enhancing precision in targeting
  » Limiting civilian casualties
  » Increasing decision-making speed and the tempo of warfare

➢ However, the proliferation of AI decision-making support systems (AI-DSS) is now a key issue being debated under the REAIM process.

Stance of U.S., China and India:

➢ **U.S. Initiatives:** The U.S. has encouraged its NATO allies to adopt norms for responsible AI use in warfare. It is also conducting a bilateral dialogue with China on AI's military applications, particularly its potential implications for nuclear deterrence. In early 2024, the U.S. introduced a resolution on responsible AI use at the UNGA, co-sponsored by 123 countries and adopted by consensus.

➢ **China's Stance:** China is at the forefront of the strategic and regulatory discourse on military AI, promoting the concept of "intelligised warfare." In

2021, China issued a White Paper on regulating military AI and supported the REAIM process and the "call to action" on responsible AI use issued at The Hague summit.

➢ **India's Role:** While India did not endorse The Hague summit's "call to action," its involvement in shaping global AI norms is crucial. India's past experiences with nuclear arms control, where it was sidelined during rulemaking, highlight the importance of engaging early in global norm-setting for military AI.

Conclusion:

As the use of artificial intelligence (AI) in military operations expands, political efforts to regulate its use in warfare are gaining momentum. Ongoing conflicts, such as in Ukraine and Gaza, are becoming "AI labs" for military applications, prompting a diplomatic push for global norms to limit the risks of AI in warfare. While India has engaged in the development and safe use of AI in civilian sectors, it has so far remained distant from the global discussions on limiting AI's military uses. However, as new global frameworks for "AI arms control" emerge, India's involvement is crucial.

Retired Sportsperson Empowerment Training

Why in News:

Union Minister of Youth Affairs & Sports and Labour & Employment, Dr. Mansukh Mandaviya has recently launched "Retired Sportsperson Empowerment Training" (RESET) Programme on the occasion of National Sports Day.

About RESET Programme:

➢ The RESET Programme is an initiative aimed at empowering retired Indian sportspersons who have represented the country and brought significant accolades.

➢ This programme focuses on supporting these athletes in their career development journey by providing them with the necessary knowledge and skills to enhance their employability.

➢ The Lakshmibai National Institute of Physical Education (LNIPE) will lead the implementation of the RESET Programme during its pilot phase.

Objectives:

- **Career Development:** The programme will help retired athletes transition into new careers by equipping them with relevant knowledge and skills.
- **Generational Bridge:** By leveraging the rich experience of retired athletes, the programme aims to benefit the new generation of aspiring athletes, fostering the growth of sports in India.
- **Nation Building:** The initiative contributes to nation-building by recognizing and utilizing the expertise of retired athletes to nurture future champions.

Eligibility:

- Retired athletes aged between 20 and 50 years.
- Winners of international medals or participants in international events.
- National and state medallists or participants in competitions recognized by National Sports Federations, the Indian Olympic Association, or the Ministry of Youth Affairs and Sports.

Programme Structure:

- The programme will initially offer courses at two educational levels: one for individuals with qualifications of Class 12th and above, and another for those with Class 11th and below qualifications.
- RESET will be conducted in a hybrid format that includes both self-paced learning through a dedicated online portal and practical, on-ground training.
- The on-ground training will involve internships and hands-on experience in sports organizations, sporting competitions, training camps, and leagues.
- Participants will have opportunities for internships across various sports-related fields. After successfully completing the course, they will receive placement assistance and guidance to support entrepreneurial ventures.

History of Sports Governance in India

- **1950s:** Establishment of the All India Council of Sports (AICS) to address declining sports standards.
- **1982:** The Department of Sports was restructured as the Department of Youth Affairs and Sports post-Asian Games.
- **1984:** Introduction of the National Sports Policy.
- **2000:** Conversion of the Department into the Ministry of Youth Affairs and Sports (MYAS).
- **2011:** Notification of the National Sports Development Code of India.
- **2022:** Launch of the National Air Sports Policy

for activities like aerobatics, drone flying, and parachuting.

Current Model of Sports Governance:

- The governance model includes stakeholders such as the Ministry of Youth Affairs and Sports (MYAS), Indian Olympic Association (IOA), State Olympic Associations (SOAs), National Sports Federations (NSFs), and the Sports Authority of India (SAI). These entities have overlapping roles in managing and promoting sports.

Conclusion:

Improving sports governance in India requires a multi-faceted approach to address the existing challenges and create a more effective, transparent, and professional framework. The RESET Programme is a significant step which acknowledges the invaluable contributions of retired athletes and ensuring their skills continue to benefit the sports ecosystem in India.

Urban Planning & Implications

Why in News:

A new study published in Nature Cities has found that Cities around the world, but especially in Asia, are growing upwards faster than they are spreading outwards

Key Findings from the Study:

- The study utilized remote-sensing satellite data to analyze both vertical and 2D growth of cities. Additionally, scatterometers were employed to gauge changes in city structures' volume by emitting microwave pulses and analyzing the reflected data.
- According to the study, urban population increased by approximately 2 billion people from 1990 to 2020. A study covered over 1,500 cities worldwide from the 1990s to the 2010s found that vertical growth has accelerated during this period, particularly in East Asian cities, including those in China.
- Cities, especially in Asia, are growing upwards faster than outwards. Taller buildings accommodate more people in less space but can strain existing infrastructure, local environments, and even the climate.

Findings Specific to India:

- Indian cities exhibit mixed growth patterns, with large cities experiencing both outward and upward

expansion.

➤ However, building regulations, including restrictions on building heights, have constrained vertical growth compared to East and Southeast Asian cities.

➤ Central areas, such as Delhi's Lutyens Bungalow Zone, further restrict high-rise developments, resulting in taller buildings being pushed to the outskirts, such as Noida and Gurugram.

Challenges Highlighted:

➤ **Outdated Urban Planning:** Existing planning laws in Indian cities are outdated and do not address modern urban infrastructure needs, such as transportation, energy, and waste management. Many cities and states, including Bengaluru, are still operating under outdated master plans. This situation is further exacerbated by a lack of comprehensive planning that incorporates climate resilience and sustainability.

➤ **Urban "heat island" effects:** Tall buildings and lack of green cover can increase temperatures and alter local weather patterns. According to increased built-up areas can significantly reduce wind speeds, impacting the local climate.

Recommendations:

➤ There is a need to revisit and update master planning acts to address modern urban challenges such as transportation, energy, water management, and climate change.

➤ It is crucial to develop locally grounded policies that balance the aspirations of people with the goals of sustainability and liveability.

➤ Additionally, reflecting on the current trajectory of vertical growth is necessary to formulate informed policies on future high-rise developments in India.

➤ 3D Urban Growth: There is a need to incorporate an understanding of three-dimensional urban structures into planning processes. This approach allows for better anticipation of energy and resource requirements, ensuring more efficient and sustainable urban development.

Conclusion:

No single solution fits all cities, as different urban contexts require tailored planning and regulations. To achieve this, trained urban planners are essential for crafting policies that effectively balance development with environmental considerations and the needs of the community.

Increase in Crimes Against Scheduled Castes

Why in News:

A recent government report has indicated that Uttar Pradesh, Rajasthan, and Madhya Pradesh topped the list for atrocities against Scheduled Castes (SCs) in 2022. According to the report, from a total of 51,656 cases, 12,287 cases (23.78%) have been reported from Uttar Pradesh alone. Rajasthan followed with 8,651 cases (16.75%), and Madhya Pradesh had 7,732 cases (14.97%).

Key Points from the Report:

➤ Approximately 97.7% of incidents involving atrocities against SCs in 2022 originated from 13 states, with UP, Rajasthan, and Madhya Pradesh leading the way.

➤ Other states included Bihar (6,799 cases), Odisha (3,576 cases), and Maharashtra (2,706 cases). These six states accounted for about 81% of total cases.

➤ The report noted that charge sheets were filed in 60.38% of cases related to SCs, while 14.78% of cases were closed as final reports due to false allegations or lack of evidence. For Scheduled Tribes (STs), charge sheets were filed in 63.32% of cases.

➤ The report stated that 17,166 cases involving SCs remain under investigation. In 2022, the conviction rate dropped to 32.4%, down from 39.2% in 2020, indicating a troubling trend that highlights challenges in the justice system.

➤ It was also mentioned that special courts have been established in only 194 districts, and only 14 states have set up this arrangement out of 498 districts. Notably, Uttar Pradesh has not identified "atrocity-prone areas," despite reporting the highest number of cases.

Constitutional Provisions for the Protection of SC Rights

➤ **Article 15(1):** Prohibits discrimination on the grounds of religion, race, caste, sex, or place of birth.

➤ **Article 17:** Abolishes untouchability.

➤ **Article 23:** Prohibits forced labor or beggar practices.

➤ **Article 46:** Directs the state to promote the welfare of SCs and STs.

➤ **Articles 16(4) & 16(5):** Provides for reservations in

services and posts for SCs and STs.

➢ **Article 21:** Guarantees the right to life and liberty, including the right to be free from discrimination.

➢ **Article 335:** Directs the state to ensure adequate representation for SCs and STs.

Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989:

➢ **Objective:** To provide a strong legal basis to prevent atrocities against SCs and STs.

➢ **Special Courts:** Cases are tried in special courts for expedited hearing.

➢ **Safety and Justice:** Focuses on providing security and justice to vulnerable communities facing caste-based violence.

Conclusion:

The report clearly indicates a need for special attention to prevent ethnic-based violence and atrocities against Dalits. States should target interventions in districts that are more susceptible to such atrocities to ensure the safety of vulnerable communities.

Global Cybersecurity Index 2024

Why in News:

India achieved Tier 1 status in the Global Cybersecurity Index (GCI) 2024, published by the International Telecommunication Union (ITU). With an excellent score of 98.49 out of 100, India has secured its place among 'role-modeling' countries, reflecting its strong commitment to global cybersecurity efforts.

Method of Evaluation for GCI 2024:

➢ The GCI 2024 assessed national efforts based on five main pillars:
  » Legal
  » Technical
  » Organizational
  » Capacity Development
  » Cooperation

➢ The evaluation included 83 questions covering 20 indicators, 64 sub-indicators, and 28 micro-indicators, ensuring a comprehensive assessment of each country's cybersecurity landscape.

Reasons for India's Achievements:

➢ India's outstanding performance is the result of government initiatives aimed at enhancing cyber resilience and establishing a robust legal framework against cybercrime. Additionally, various Sectoral Computer Incident Response Teams (CSIRTs) provide technical assistance and incident reporting, further strengthening India's cybersecurity capabilities.

Education and Awareness:

➢ Education and awareness are vital components of India's cybersecurity strategy. Targeted campaigns and educational initiatives have promoted safe online practices across various sectors. Incorporating cybersecurity into primary and secondary education curriculums enhances the awareness and preparedness of digital citizens.

Global Cooperation:

➢ International cooperation through bilateral and multilateral agreements has bolstered India's capacity-building and information-sharing efforts, reinforcing its role as a global leader in cybersecurity.

Steps Taken to Strengthen India's Cybersecurity:

➢ **Establishment of the Indian Cyber Crime Coordination Centre (I4C):** Created to combat cybercrime and maintain cybersecurity.

➢ **Indian Computer Emergency Response Team (CERT-In):** Responsible for prompt responses to cybersecurity incidents.

➢ **Cyber Surakshit Bharat Program:** Launched to promote cybersecurity awareness and best practices among citizens.

➢ **National Cyber Security Coordination Centre (NCCC):** Coordinates cybersecurity efforts among various government agencies and stakeholders.

➢ **Cyber Swachhta Kendra:** Established to provide information and resources on cybersecurity.

➢ **National Cyber Security Policy 2013:** Outlines India's strategy for protecting its cyber infrastructure and promoting cybersecurity.

About the International Telecommunication Union (ITU)

➢ **Establishment:** Founded in 1865 as the International Telegraph Union.

➢ **Part of the United Nations:** Became a specialized

agency of the UN in 1947.

➢ **Structure:** An intergovernmental organization coordinating global telecommunications and ICT services between governments and private sector entities.

➢ **Member Countries:** Comprises 193 countries and over 1000 companies, universities, and international and regional organizations.

➢ **Main Functions:** Allocates global radio spectrum and satellite orbits.

➢ Coordinates and sets technical standards related to telecommunications/ICT.

➢ Works to improve access to ICTs in underserved communities worldwide.

➢ I**ndia and ITU:** India has been an active member of ITU since 1869 and a regular member of the ITU Council since 1952.

➢ **Headquarters:** Geneva, Switzerland.

Conclusion:

India's leap to Tier 1 in the GCI 2024 clearly indicates that the country has adopted advanced cybersecurity commitments. This achievement not only demonstrates the Indian government's dedication to securing its digital domain but also sets a standard for other countries.

Shipyard Confirmed at Lothal

Why in News:

A recent study by the Indian Institute of Technology-Gandhinagar has revealed the presence of an important dockyard at Lothal in Gujarat during the Harappan Civilisation. The study has revealed several important findings that explain the maritime and trade importance of Lothal.

The Findings:

➢ The study has revealed that the Sabarmati river flowed near Lothal during the Harappan Civilisation. Currently, the river flows 20 km away from Lothal, but in ancient times it was closer to the town.

➢ There was also an important travel route connecting Ahmedabad to Dholavira (another Harappan site) via Lothal, the Nal Sarovar wetland and the Little Rann.

➢ Researchers have hypothesized that there was an inland network from Lothal to the Rann of Kutch,

which was important for trade and cultural exchange.

➢ A large trapezoidal basin has been found in the eastern area of Lothal, which is about 222 m long, 37 m wide and 4 m deep. It has an inlet and outlet channels, which helped in cargo handling.

➢ There is a 240 m wide mud brick platform on its western edge and also a "warehouse" near it. All these features indicate that the site may have been a dockyard.

➢ Studies have revealed that traders reached Gujarat through the Gulf of Khambhat and probably went to Ratanpura to obtain materials. These items were sent to Mesopotamia (modern Iraq). This shows that Lothal was a major commercial center and trade was carried out through sea and river routes.

About Lothal:

➢ **Location and Meaning:** Lothal is an ancient mound located in Sargwala village in Ahmedabad district of Gujarat. The name 'Lothal' comes from the Gujarati words 'loth' (place of the dead) and 'thal' (place), meaning "place of the dead". The site is located near the Gulf of Khambhat, which gave it direct access to the Arabian Sea.

➢ **Economic and industrial activities:** Lothal was a major industrial centre. Bronze tools, beads and jewellery were manufactured here. The city imported copper and precious stones and specialized in the bead industry.

➢ Lothal artisans made beautiful jewellery and developed a good trade network, exporting goods to various parts of the Harappan civilization.

Urban Planning and Infrastructure:

➢ Lothal had a highly efficient urban planning, with houses built on stepped platforms surrounded by peripheral walls on three sides.

➢ The city was divided into the acropolis and the lower city, which included amenities such as paved roads, underground drains and wells. The lower city was equipped with a commercial centre, residential areas and wharves for ships, while an advanced drainage system controlled flood and waste problems.

Conclusion:

This study puts the trade network of the Harappan Civilisation and the significance of Lothal in a new light. It makes it clear that Lothal was not just an archaeological site but an important part of the maritime and commercial

network of the Harappan period. These findings provide insight into the richness and expanse of ancient Indian trade routes, thus making the maritime trade scenario of Indian history more clear.

Swachh Bharat Mission Saved 70,000 Infant Lives Per Year

Why in News:

A new research paper published in the journal Nature and authored by researchers from the International Food Policy Research Institute, University of California and Ohio State University has revealed that the elimination of open defecation in India has helped prevent about 60,000-70,000 infant deaths per year.

Study Findings:

➢ In 2003, infant mortality rates were more than 60 per 1,000 live births in most districts. By 2020, this rate declined to 30 per 1,000. The increase in toilet coverage following the implementation of SBM also led to a substantial reduction in infant mortality.

➢ The study showed that districts with more than 30% toilet access under the SBM saw a 5.3 percent reduction in infant mortality per thousand live births and a 6.8 percent reduction in the under-five mortality rate.

➢ In the first five years of the SBM, the availability of toilets doubled and the rate of open defecation decreased from 60% to 19%.

➢ From 2014 to 2020, the government built 109 million household toilets.

➢ One of the key findings of the study is that historically, there has been a strong inverse relationship between toilet access and child mortality in India.

➢ The research paper also explains that districts with greater availability of toilets have resulted in improved institutional deliveries, maternal health, and antenatal care, leading to better health outcomes.

➢ The SBM combined toilet construction with information, education and community participation, leading to improved health.

➢ The study also showed that expanded access to toilets under the Swachh Bharat Mission reduced exposure to fecal-oral disease transmission, leading to a reduction in the incidence of diarrhoea and malnutrition.

Swachh Bharat Mission:

➢ Swachh Bharat Mission (SBM) is a nationwide campaign of the Government of India aimed at construction, use of household and community toilets, and solid and liquid waste management (SLWM).

➢ **Implementation:** The urban component of the Mission is implemented by the Ministry of Housing and Urban Affairs and the rural component is implemented by the Ministry of Jal Shakti.

➢ **Use of technology:** Modern technology was effectively used in the campaign. Each toilet was mapped and geotagged on the Integrated Management Information System (IMIS), enabling real-time monitoring of progress.

➢ **Public awareness efforts:** The Information, Education and Communication (IEC) Division energised government communication, and campaigns such as 'Darwaza Band', 'Saaf nahi to Maaf nahi' mobilised rural citizens.

Success of the Programme:

➢ The remarkable achievement of all villages across Indian states declaring themselves as Open Defecation Free (ODF) by the year 2019 underlines the huge success of this mission.

➢ Further, India has reached another important milestone with more than 5.12 lakh villages, which is 87% of the total villages, being declared as Open Defecation Free (ODF) Plus under the second phase of Swachh Bharat Mission Grameen (SBM-G).

➢ The initiatives launched have resulted in 16 States/UTs being declared 100% Open Defecation Free Plus (ODF Plus), and 4 States/UTs have achieved the ultimate objective of 100% Open Defecation Free Plus (ODF Plus) model category.

➢ This comprehensive phase extends beyond just the elimination of open defecation to include important aspects such as greywater management, faecal sludge management and plastic waste management.

Conclusion:

According to the report, Swachh Bharat Mission has established sanitation as a structural and behavioural change rather than just toilet construction. This campaign, which saves the lives of 70,000 children every year, has revolutionised health improvement by using advanced

technological tools like geo-tagging, GIS-mapping and real-time monitoring. The increase in toilet coverage shows that SBM has transformed sanitation into a data-driven, impactful and sustainable development, leading India towards a healthy and empowered future.

WHO Urges Action on Road Safety in Southeast Asia

Why in News:

World Health Organization (WHO) has raised alarms regarding road safety in Southeast Asia, highlighting the alarming rate of fatalities among young individuals aged 15 to 29. Vulnerable road users—such as pedestrians, cyclists, and those on two or three-wheelers—account for a staggering 66% of all reported road traffic deaths in the region.

Key Statistics

➢ In 2021, Southeast Asia reported 330,223 of the estimated 1.19 million global road traffic deaths, accounting for 28% of the global burden.

➢ India alone experiences around 300,000 fatalities annually due to road accidents, translating to over 34 deaths per hour.

➢ Road crashes cost India an estimated 5% to 7% of its national GDP.

Challenges for the Region

➢ **Rapid Urbanization:** Increasing population density and vehicle usage.

➢ **High Prevalence of Motorized Vehicles:** A significant number of two and three-wheelers on the roads.

➢ **Inadequate Traffic Injury Data:** Lack of comprehensive data hampers effective policy-making.

➢ **Poor Infrastructure:** Insufficient facilities for pedestrians and cyclists.

➢ **Limited Emergency Services:** Delayed response times can worsen outcomes in traffic injuries.

Focus Areas for Improving Safety:

To enhance road safety in India and the region, key areas of focus include:

➢ **Helmet Use:** Enforcing helmet usage can reduce fatal injuries by 42%.

➢ **Speed Regulation:** Speeding contributes to 70% of road crash deaths, necessitating strict enforcement

against drunk-driving.

➢ **Infrastructure Enhancement:** Many roads remain unsafe despite recent government initiatives aimed at improving safety.

➢ **Behavioral Change:** Large-scale public awareness campaigns can promote safer behaviors among road users.

Steps Taken by India:

India has implemented the Motor Vehicles (Amendment) Act, 2019, which includes:

➢ Increased penalties for traffic violations.

➢ Electronic monitoring of violations.

➢ Enhanced penalties for juvenile driving.

Global Initiatives

➢ Road safety is a critical public health priority that aligns with the UN Sustainable Development Goals (SDGs). In September 2020, the UN General Assembly launched the Decade of Action for Road Safety 2021-2030, aiming to reduce road traffic deaths and injuries by at least 50% by 2030.

Way Forward:

To reduce road accident, low- and middle-income countries must prioritize vulnerable road users, strengthen trauma and emergency care systems, enhance road safety data, promote strong leadership, and foster collaboration among stakeholders.

Need for a Public Health Emergency Management Law in India

Why in News:

To strengthen India's health system against future health crises, an expert group constituted by NITI Aayog has recommended the proposal of the "Public Health Emergency Management Act (PHEMA)." This initiative aims to ensure a holistic approach to health management, covering prevention, control, and disaster response.

Key Provisions of PHEMA:

➢ **Addressing Various Aspects:** PHEMA will tackle not only pandemics but also non-communicable diseases, disasters, and bio-terrorism.

➢ **Skilled Public Health Personnel:** The Act will promote the development of skilled public health

workers at national and state levels.

➢ **Empowered Governance Mechanism:** An Empowered Group of Secretaries, chaired by the Cabinet Secretary, will be established to ensure effective response.

Recommendations of the Expert Group:

➢ **Data Management and Surveillance:** A coordinated system for data collection, access, sharing, and analysis for infectious diseases, along with the establishment of a unified data portal.

➢ **Research and Innovation:** Allocation of funds for advanced research on vaccines and drugs for priority pathogens.

➢ **Risk Communication:** Establishment of a dedicated risk communication unit with pre-approved standard operating procedures.

World Health Organization's Disaster Risk Management Framework:

➢ WHO developed the "Health Emergency and Disaster Risk Management Framework" (Health EDRM) to provide ministries of health and other stakeholders with an overview of:

  » Policies, strategies and legislation

  » Planning and coordination

  » Human and financial resources

  » Information and knowledge management

  » Risk communication

  » Health infrastructure and logistics

  » Community capacities for health EDRM

  » Monitoring and evaluation.

➢ Sound risk management is essential to secure the development and implementation of the Sustainable Development Goals (SDGs), including the pathway to universal health coverage (UHC), the Sendai Framework for Disaster Risk Reduction 2015-2030, the International Health Regulations (2005), the Paris Agreement on Climate Change and other relevant global, regional and national frameworks.

Conclusion:

The expert group's report, titled "Future Pandemic Preparedness and Emergency Response: A Framework for Action," emphasizes the importance of the first 100 days in managing an outbreak. By implementing PHEMA and these recommendations, India can strengthen its preparedness and response to future public health emergencies.

Brain Boosters

Right To Remain Silent

Supreme Court judge, Justice Ujjal Bhuyan, allowing bail to Delhi Chief Minister, upheld the right of an accused to remain silent during interrogation. Justice Bhuyan observed that an investigating agency cannot presume guilt or make an adverse inference against an accused who chose to remain mum.

Origins and Evolution of the Right to Remain Silent

Medieval England:
❖ The right to silence has its origins in medieval England, where legal practices were notably harsh and coercive.

Nemo Debet Prodere Ipsum:
❖ The principle "nemo debet prodere ipsum," meaning "no one should be compelled to accuse himself".
❖ It emerged as a response to the coercive practices.
❖ It reflects the belief that forcing individuals to incriminate themselves violates fundamental justice.

Evolution of Legal Protections:
❖ It led to reforms that restricted the use of coercive interrogation techniques and ensured that individuals could not be compelled to self-incriminate.

Modern Legal Safeguards:
❖ The right to silence has been integrated into many legal systems as a fundamental protection against self-incrimination, reflecting its deep historical roots and evolution from medieval practices.

Key Aspects of the Right to Silence

Burden of Proof:
❖ In criminal trials, it is the responsibility of the State or the prosecution to prove the defendant's guilt.
❖ The prosecution must demonstrate the defendant's guilt beyond a reasonable doubt.

Presumption of Innocence:
❖ An accused individual is presumed innocent until proven guilty.
❖ This presumption helps protect the accused from unfair bias and ensures the fairness of the trial process.

Protection Against Self-Incrimination:
❖ The right to silence allows the accused to refrain from making statements that could incriminate themselves.
❖ The accused cannot be forced to answer questions that could lead to self-incrimination.

Exceptions to the Right:
❖ Although the right to silence is a fundamental protection, there are certain exceptions.
❖ In specific situations, the law may require the accused to cooperate with investigations, such as providing photographs, voice recordings, blood samples or other bodily materials for DNA analysis.

Right to Silence: Constitutional and Legal Framework

Constitutional Protection:
❖ In India, the right against self-incrimination is enshrined in Article 20(3) of the Constitution. This provision guarantees that no individual accused of an offense can be compelled to testify against themselves.
❖ It underscored the significance of safeguarding the rights of the accused and ensuring a fair legal process.

Impact of the Maneka Gandhi Case:
❖ Following the Maneka Gandhi case, Article 21 of the Constitution has been interpreted to require that all legal procedures in criminal cases be fair, just, and equitable.

BRAIN BOOSTERS

Lokpal & Lokayuktas

Over a decade after a law governing Lokpal was passed, anti-corruption ombudsman has constituted an inquiry wing for conducting preliminary probe into graft-related offences committed by public servants. The Lokpal and Lokayuktas Act, 2013 came into force on 01/01/2014. It began functioning on 27/03/2019, after the appointment of its chairperson and members.

Historical Context and Development

Early Initiatives:

❖ 1985: The first Lokpal Bill was introduced by the Government of India in Parliament but was not passed.

Jan Lokpal Movement:

❖ 2011: The anti-corruption movement led by Anna Hazare and supported by civil society groups emphasized the need for a robust anti-corruption mechanism, leading to the drafting of the Jan Lokpal Bill.

❖ Public Pressure: The movement saw massive public support and protests, which pressured the government to take action.

Legislative Action:

❖ Lokpal and Lokayuktas Act, 2013: Passed by Parliament, this Act aimed to address corruption at both central and state levels through the establishment of the Lokpal and Lokayuktas.

Structure and Composition

Lokpal:

❖ **Chairperson:** Appointed from among retired Chief Justices of India or retired Supreme Court judges.

❖ **Members:** Up to eight members, including at least 50% from among retired High Court judges or those with experience in anti-corruption, public administration or management.

Selection Committee:

❖ **Composition:** The committee includes the Prime Minister, the Speaker of the Lok Sabha, the Leader of the Opposition in the Lok Sabha, the Chief Justice of India and an eminent jurist nominated by the President of India.

Lokayuktas:

❖ **Function:** Lokayuktas operate at the state level, with a similar role to that of the Lokpal but focusing on state-level public officials and corruption.

Powers and Functions

Investigations:

❖ **Scope:** The Lokpal can investigate complaints against public officials, including the Prime Minister, Ministers, MPs and senior bureaucrats.

❖ **Complaints:** Can be made by any citizen and the Lokpal can take suo motu action based on evidence of corruption.

Recommendations:

❖ **Action:** The Lokpal can recommend disciplinary actions, prosecution or recovery of ill-gotten wealth.

❖ **Preventive Measures:** Can suggest reforms and measures to improve transparency and reduce corruption.

Administrative Oversight:

❖ **Public Officials:** Monitors and reviews the conduct of public officials and institutions.

❖ **Reports:** Submits annual reports to Parliament detailing its activities and findings.

Brain Boosters

PM E-DRIVE

The Union Cabinet chaired by the Prime Minister has approved the proposal of Ministry of Heavy Industries for implementation of scheme 'PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) Scheme' for promotion of electric mobility in the country. The scheme has an outlay of Rs 10,900 crore over a period of two years.

Overview of the Scheme

❖ The PM E-DRIVE scheme is a comprehensive initiative by the Government of India aimed at promoting electric vehicles (EVs) and improving the associated infrastructure to foster green mobility.

❖ The scheme focuses on reducing environmental pollution, enhancing fuel security, and supporting sustainable transportation solutions.

Key Components and Allocations

Subsidies and Demand Incentives
❖ **Total Allocation:** Rs. 3,679 crore.
❖ **Vehicle Categories:**
  » e-2Ws (Electric Two-Wheelers): Support for 24.79 lakh units.
  » e-3Ws (Electric Three-Wheelers): Support for 3.16 lakh units.
  » e-Buses: Support for 14,028 units.

E-Ambulance Initiative
❖ **Allocation:** Rs. 500 crore.
❖ **Objective:** To encourage the use of e-ambulances for patient transport, focusing on comfort and safety.
❖ **Standards:** Safety and performance standards to be developed with MoHFW, MoRTH, and relevant stakeholders.

E-Bus Procurement and Deployment
❖ **Total Allocation:** Rs. 4,391 crore.
❖ **Target:** 14,028 e-buses.
❖ **Demand Aggregation:** Managed by CESL in major cities with populations over 40 lakh, and for intercity and interstate routes.
❖ **Preference:** Prioritization for cities/states that procure buses after scrapping old STU buses.

Promotion of E-Trucks
❖ **Allocation:** Rs. 500 crore.
❖ **Objective:** To mitigate air pollution from trucks.
❖ **Incentives:** Provided for e-trucks with scrapping certificates from approved centers.

Expansion of EV Charging Infrastructure
❖ **Total Outlay:** Rs. 2,000 crore.
❖ **Installation Goals:**
  » Fast Chargers for e-4Ws: 22,100 units.
  » Fast Chargers for e-Buses: 1,800 units.
  » Fast Chargers for e-2Ws/3Ws: 48,400 units.

Modernization of Testing Agencies
❖ **Allocation:** Rs. 780 crore.
❖ **Objective:** Upgrade testing facilities to accommodate new EV technologies and support green mobility initiatives.

Objectives

❖ **Infrastructure Development:** Establishing essential charging infrastructure to address range anxiety.
❖ **Fuel Security:** Decreased dependence on fossil fuels.
❖ **Aatmanirbhar Bharat:** Encourages domestic manufacturing through phased manufacturing programs (PMP), strengthening the EV supply chain.

BRAIN BOOSTERS

Air Pollution In India

About Air Pollution

❖ Air pollution is contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere.

❖ Household combustion devices, motor vehicles, industrial facilities and forest fires are common sources of air pollution.

Air Pollutants

Particulate Matter

❖ Particulate matter is a term that describes extremely small solid particles and liquid droplets suspended in air.

❖ **PM10** (particles with a diameter of 10 micrometres or less)

❖ **PM2.5** (particles with a diameter of 2.5 micrometres or less)

Ozone (O3)

❖ Ozone, O3, is composed of three oxygen atoms joined together.

❖ Ground level ozone is the main component of smog and is the product of the interaction between sunlight and emissions from sources such as motor vehicles and industry.

Nitrogen dioxide (NO2)

❖ Nitrogen dioxide is a highly reactive gas formed by emissions from motor vehicles, industry, unflued gas-heaters and gas stove tops.

Carbon monoxide (CO)

❖ Carbon monoxide is a poisonous gas. It is produced from burning fuels like gas, wood and charcoal, even if there is no smoke.

Sulphur dioxide (SO2)

❖ Sulphur dioxide is highly reactive gas with a pungent irritating smell. It is formed by fossil fuel combustion at power plants and other industrial facilities.

List of Steps taken for Improvement Of Air Quality

Actions Taken by the Central Government

❖ National Clean Air Programme
❖ Measures for control of vehicular emissions
❖ Measures for control of emissions from Stubble Burning

❖ Air Quality Monitoring and Network
❖ Measures for control of vehicular refueling emissions
❖ Measures for control of industrial emission
❖ Measures for Control of Emissions from Stubble Burning
❖ MSW and C&D Waste

Actions taken by Central Pollution Control Board (CPCB)

Major Causes of Air Pollution

❖ The Burning of Fossil Fuels
❖ Industrial Emission
❖ Indoor Air Pollution
❖ Wildfires
❖ Microbial Decaying Process
❖ Transportation

❖ Open Burning of Garbage Waste
❖ Construction and Demolition
❖ Agricultural Activities
❖ Use of chemical and synthetic products

The Supreme Court has sought a report from the Commission for Air Quality Management (CAQM) on steps taken to prevent farm fires and action taken against officers for allowing such incidents despite past orders to stop them, reacting to news reports of farmers in Punjab starting to burn stubble.

BRAIN BOOSTERS

Minerals Security Finance Network

India is now formally a part of the Minerals Security Finance Network, a US-led initiative aiming to strengthen cooperation among members to secure supply chains for critical minerals. The announcement, made by the US State Department on the margins of the United Nations General Assembly on September 23, involved a pact entered by 14 countries and the European Union.

Collaborative Framework

❖ Involves partnerships between:
  » Private sector companies
  » Civil society organizations
  » Governments (USA, Australia, Canada, Estonia, Finland, France, Germany, India, Italy, Japan, South Korea, Norway, Sweden, UK)
❖ Aims to align interests across stakeholders for sustainable sourcing.

Focus Areas

❖ **Responsible Sourcing:** Promoting ethical mining practices and minimizing environmental impact.
❖ **Investment Facilitation:** Mobilizing finance for exploration and sustainable mining projects.
❖ **Supply Chain Transparency:** Encouraging traceability in the mineral supply chain to reduce illegal mining and conflict minerals.

Policy Advocacy

❖ Supports the development of national and international policies to enhance mineral security.
❖ Aims to reduce dependence on single-source countries, especially those with unstable political climates.

Environmental and Social Governance

❖ Integrates ESG criteria in mineral sourcing to ensure social equity and environmental protection.
❖ Emphasizes the importance of stakeholder engagement, particularly with local communities affected by mining activities.

About Minerals Security Finance Network

❖ The PM E-DRIVE scheme is a comprehensive initiative by the Government of India aimed at promoting electric vehicles (EVs) and improving the associated infrastructure to foster green mobility.
❖ The scheme focuses on reducing environmental pollution, enhancing fuel security and supporting sustainable transportation solutions.

Objectives

❖ To enhance the resilience and sustainability of global mineral supply chains.
❖ To secure a stable supply of critical minerals essential for technology and renewable energy.

Critical Minerals

❖ Includes lithium, cobalt, rare earth elements and others vital for batteries, electronics and clean energy technologies.

Capacity Building

❖ Provides training and resources to countries and communities for sustainable mineral management.
❖ Enhances technical expertise in responsible mining practices.

BRAIN BOOSTERS

10 Years of Make in India

Launched on September 25, 2014, by PM Narendra Modi, the "Make in India" initiative has completed 10 years. The initiative's focus on developing a robust manufacturing sector promises to elevate India's economic trajectory and generate employment opportunities for its vast young workforce.

Key Points

❖ The 'Make in India' campaign aims to facilitate investment, foster innovation, enhance skill development, protect intellectual property & build best in class manufacturing infrastructure.

❖ It was designed to transform India into a global hub for design and manufacturing.

❖ Seen as an important 'Vocal for Local' initiative, its objective is twofold.

  » To boost India's manufacturing capabilities
  » To showcase its industrial potential on a global stage.

❖ The "Make in India 2.0" phase encompassing 27 sectors – both manufacturing and service.

4 Pillars of "Make in India" Initiative

❖ **New Processes:** To enhance the business environment, promote entrepreneurship and startups, 'ease of doing business' became a crucial factor.

❖ **New Infrastructure:** Development of industrial corridors, smart cities, integrating state-of-the-art technology and high-speed communication to create world-class infrastructure, improving intellectual property rights (IPR) infrastructure etc.

❖ **New Sectors:** Opening of FDI in sectors like Defence Production, Insurance, Medical Devices, Construction, and Railway infrastructure.

❖ **New Mindset:** In order to support industrial growth and innovation – the government embraced a role as a facilitator rather than a regulator. The Government partners with industry in the economic development of the country.

Key Initiatives to enable Make In India

1. Production linked Incentive (PLI) Schemes

The 14 sectors covered under the PLI Scheme are:

❖ Mobile Manufacturing and Specified Electronic Components
❖ Critical Key Starting Materials/Drug Intermediaries & Active Pharmaceutical Ingredients
❖ Manufacturing of Medical Devices
❖ Automobiles and Auto Components
❖ Pharmaceuticals Drugs
❖ Specialty Steel

❖ Telecom & Networking Products
❖ Electronic/Technology Products
❖ White Goods (Air Conditioners and LEDs)
❖ Food Products
❖ Textile Products: MMF segment and technical textiles
❖ High Efficiency Solar PV Modules
❖ Advanced Chemistry Cell (ACC) Battery
❖ Drones and Drone Components

PTO.

BRAIN BOOSTERS

Key Initiatives to enable Make In India

2. PM GatiShakti

❖
- PM GatiShakti is a transformative approach for economic growth and sustainable development.
- The approach is driven by 7 engines, namely:
  » Railways
  » Roads
  » Ports
  » Waterways
  » Airports
  » Mass Transport
  » Logistics
  » Infrastructure

3. Semiconductor Ecosystem Development

❖ India has crafted policies that support every segment of the semiconductor ecosystem, extending beyond just fabrication plants (fabs) to include packaging, display technologies, outsourced semiconductor assembly and testing (OSAT), sensors, and more.

❖ The Semicon India Programme encompasses four key schemes:

» Modified Scheme for Setting Up Semiconductor Fabs in India

» Modified Scheme for Setting Up Display Fabs in India

» Modified Scheme for Setting Up Compound Semiconductors, Silicon Photonics, Sensors Fabs, and Discrete Semiconductors, along with Semiconductor Assembly, Testing, Marking, and Packaging (ATMP) / OSAT Facilities in India

» Design Linked Incentive (DLI) Scheme

4. National Logistics Policy

Its targets include reducing logistics costs, improving India's Logistics Performance Index ranking to among the top 25 countries by 2030, and developing a data-driven decision support system.

5. The National Industrial Corridor Development Programme

This program focuses on developing integrated industrial corridors with robust multi-modal connectivity, promoting growth in manufacturing and systematic urbanization.

6. Startup India

❖ Startup India was launched on January 16, 2016.

❖ As of September 25, 2024, India boasts the third-largest startup ecosystem in the world, with 148,931 DPIIT Recognized Startups, which have created over 15.5 lakh direct jobs.

7. Implementation of the Goods and Services Tax

❖ India's Unified Payments Interface (UPI) has emerged as a frontrunner in the global digital payments landscape, showcasing its remarkable capability to surpass the world's leading digital payments platforms.

❖ With 46% of the global real-time payment transactions occurring in India, UPI has firmly established itself as a significant player in this sector.

Conclusion

❖ The "Make in India" initiative celebrates its 10th anniversary, it stands as a testament to India's determination to reshape its manufacturing landscape and enhance its global standing.

❖ The future of India's manufacturing and industrial sectors looks promising, driven by innovation, infrastructure, and a renewed commitment to economic excellence.

BRAIN BOOSTERS

Constitution of India: A Living Document

Chief Justice of India D.Y. Chandrachud while delivering the M.K. Nambyar Memorial Lecture said the Indian Constitution had thrived over the years as a 'living document'. The Constitution is described as a living instrument because that while it is a document which enunciates eternal values for Indian society, it possesses the resilience necessary to ensure its continued relevance.

Historical Context

Framing of the Constitution:

❖ The Indian Constitution was drafted in a diverse and complex society post-independence.

❖ The framers aimed to create a framework that could address the multifaceted challenges of a newly independent nation while upholding democratic values, social justice and individual freedoms.

Influence of Global Ideals:

❖ The Constitution draws from various global sources, integrating principles from different legal traditions.

❖ This openness to ideas facilitates its evolution in line with global human rights standards and democratic practices.

Key Features Supporting Its Living Nature

Broad Language:

❖ The Constitution uses broad and flexible language, particularly in fundamental rights and directive principles.

❖ This allows for various interpretations that can adapt to societal changes.

Judicial Activism:

❖ The Indian judiciary has been proactive in interpreting constitutional provisions in light of contemporary issues.

Social Justice:

❖ The Constitution's commitment to social justice is evident in its provisions for affirmative action, which can be revised to address the needs of different communities over time.

Amendment Process

Rigidity and Flexibility:

❖ While the Constitution is rigid in certain aspects (Basic structure doctrine), it is also flexible, allowing for amendments through a detailed procedure.

Recent Amendments:

❖ Amendments such as the 73rd and 74th Amendments, which enhanced the powers of local self-governments, illustrate how the Constitution evolves to strengthen grassroots democracy and decentralization.

Socio-political Dynamics

Cultural Diversity:

❖ India's pluralistic society necessitates a Constitution that can adapt to various cultural, linguistic and religious contexts.

Emerging Issues:

❖ New challenges like digital rights, environmental sustainability and gender equality require constitutional interpretation and potential amendments, demonstrating the Constitution's responsiveness to emerging social issues.

Role of Civil Society

Public Participation:

▪ Civil society organizations and citizen movements play a vital role in advocating for constitutional rights, influencing judicial interpretations and prompting legislative changes.

BRAIN BOOSTERS

Summit of the Future

Adoption

- ❖ A Pact for the Future
- ❖ Two annexes:
  - » The Global Digital Compact
  - » A Declaration on Future Generations.

Addressing the **Summit of the Future** at the United Nations in New York, PM Modi said that the **"success of humanity lies in our collective strength, not in the battlefield"**.
Theme: 'Multilateral Solutions for a Better Tomorrow'

About Summit of the Future

- ❖ **Origin:** Proposed by the UN Secretary-General in the "Our Common Agenda" report (September 2021).
- ❖ **Purpose:** Address current and future global challenges through multilateral solutions.
- ❖ **Format:** High-level event bringing together world leaders.
- ❖ **Goals:**
  - » Forge a new international consensus.
  - » Deliver a better present and safeguard the future.
- ❖ **Context:**
  - » Growing necessity for effective global cooperation.
  - » Challenges posed by mistrust among nations.
  - » Need to reform outdated international structures.

About Pact for the Future

The "Pact for the Future" was adopted by the UN General Assembly on September 22,2024.

- ❖ **Landmark Declaration:** The Pact reaffirms UN Member States' commitment to sustainable development, peace, and stronger global governance.
- ❖ **Alignment with WMO:** It aligns with the World Meteorological Organization's vision for a safer and more resilient world.
- ❖ **Urgent Climate Action:** The Pact emphasizes the need for immediate action on climate change.
- ❖ **Partnerships Across Sectors:** It calls for collaboration among various sectors to accelerate progress toward the Paris Agreement and the Sustainable Development Goals (SDGs).
- ❖ **Universal Early Warnings:** It includes a commitment to provide universal coverage of multi-hazard early warning systems by 2027.

About Global Digital Compact

- ❖ **Part of the Pact for the Future:** The Global Digital Compact is a component of the broader Pact for the Future.
- ❖ **Addressing Pressing Issues:** It tackles critical international challenges such as:
  - » Sustainable development
  - » International peace
  - » Future generations
  - » Technology and innovation
  - » Digital cooperation
- ❖ **Objectives and Principles:** The Compact outlines specific objectives, principles, commitments, and actions aimed at:
  - » Developing an open, free and secure digital future for all
  - » Highlighting the benefits of digital technologies for humanity

BRAIN BOOSTERS

White Revolution 2.0

Union Home and Cooperation Minister Amit Shah launched the standard operating procedure for 'White Revolution 2.0' stating that milk dairies will aid empowerment of women and the fight against malnutrition.

Overview White Revolution 2.0

❖ **Objective:** To increase milk procurement by dairy cooperatives by 50% over the next five years.

❖ **Current Status:**
  » **Milk Procurement:** 660 lakh kg per day in 2023-24.
  » **Target:** 1,007 lakh kg per day by 2028-29.

❖ **Key Strategies:**
  » **Expand Coverage:** Reach more dairy farmers, especially in uncovered areas.
  » **Enhance Organised Sector Share:** Strengthen the role of dairy cooperatives in the dairy sector.

❖ **Historical Context:**
  » Inspired by Operation Flood launched in 1970, which transformed India's dairy industry.

❖ **Societal Impact:**
  » Aims to generate employment.
  » Focus on empowering women within the dairy sector.

Scope for Expansion of Dairy Cooperatives

❖ **Current Coverage:**
  » Dairy cooperatives operate in approximately 70% of India's districts.

❖ About 1.7 lakh dairy cooperative societies (DCSs) exist.

❖ These DCSs cover around 2 lakh villages (30% of total villages).

❖ Cooperatives serve 22% of producer households.

❖ **Milk Procurement:**
  » Dairy cooperatives procure about 10% of India's total milk production.
  » They account for 16% of the marketable milk surplus.

❖ **Regional Insights:**
  ❖ **States with high coverage (over 70% of villages):**
    » Gujarat
    » Kerala
    » Sikkim
  ❖ **States with low coverage (10-20% of villages):**
    » Uttar Pradesh
    » Uttarakhand
    » Madhya Pradesh
  ❖ **States with less than 10% coverage:**
    » West Bengal
    » Assam
    » Odisha
    » Jharkhand
    » Chhattisgarh
    » Himachal Pradesh
    » Northeastern smaller states

India's Standing on Milk Production

❖ **Top Producer:** India is the world's leading milk producer, with production reaching 230.58 million tonnes in 2022-23.

❖ **Average Yield:**
  » Exotic/Crossbred animals: 8.55 kg per animal per day.
  » Indigenous/Nondescript animals: 3.44 kg per animal per day.

❖ **Per Capita Availability:**
  » National average: 459 grams per day (higher than the global average of 323 grams).

❖ **Top Milk Producing States** (based on % of total production):
  » Uttar Pradesh: 15.72%
  » Rajasthan: 14.44%
  » Madhya Pradesh: 8.73%

❖ **Growth Trends:**
  » Total production increased from 187.75 million tonnes in 2018-19 to 230.58 million tonnes in 2022-23.
  » Annual growth rate decreased from 6.47% to 3.83% during this period.

BRAIN BOOSTERS

World Tourism Day 2024

Ministry of Tourism celebrated the World Tourism Day-2024 on 27th September, highlighting the crucial role of tourism in fostering development and global harmony. With the aim of using tourism as a major means for sustainable development and especially poverty alleviation, the United Nations World Tourism Organization (UNWTO) decided to celebrate World Tourism Day every year.

1. Theme

World Tourism Day 2024: 'Tourism and Peace'.

❖ It emphasizes the vital connection between tourism and peacebuilding.

❖ It emphasizes how travel, cultural exchange and sustainable tourism practices can contribute to conflict resolution, reconciliation, and the promotion of global peace.

2. History & Significance

❖ World Tourism Day is celebrated annually on September 27 to commemorate the adoption of the UNWTO's statutes in 1970.

❖ The day aims to raise awareness of tourism's role in international cooperation, sustainable development and fostering cultural exchange.

3. Celebrations in India

The Ministry of Tourism celebrated World Tourism Day. On the occasion, the Vice President of India launched the following initiatives:

Paryatan Mitra and Paryatan Didi:

❖ The program aims to elevate the overall experience for tourists in destinations by having them meet 'tourist-friendly' people who have been trained to transform into proud Ambassadors and storytellers for their destination.

❖ Special emphasis is being placed on training women and youth to develop innovative tourism products and experiences such as heritage walks, food and craft tours, nature treks, homestays, and other destination-specific offerings.

Best Tourism Village Winners:

❖ Best Tourism Villages Competition was introduced in 2023.

❖ The focus was to identify and recognize villages which preserve and promote cultural and natural assets through community-based values and commitment to sustainability in all aspects.

❖ This year, 36 villages were recognised as winners across 8 categories of the Best Tourism Villages competition 2024.

Incredible India Content Hub and Digital Portal:

❖ The revamped Incredible India digital portal "Incredible India Content Hub" was launched.

4. Promotion of Tourism in India

❖ **2005:** "Atithi Devo Bhava"

❖ **2017:** Incredible India 2.0

❖ **2022:** India@75

❖ **2024:** Niche Tourism products were identified to overcome the tourist seasonality and to promote India as a 365-day tourist destination.

BRAIN BOOSTERS

5. Indian Tourism: Global Imprints

46th UNESCO World Heritage Meeting:

❖ For the first time, India hosted the World Heritage Committee Meeting, from 21st to 31st July 2024.

43rd World Heritage Site:

❖ Moidams from Assam became India's 43rd World Heritage Site.

❖ Located in the Charaideo district of Assam, Moidams are sacred burial mounds of the Ahom dynasty, reflecting six centuries of cultural and architectural development.

❖ Five properties have been nominated as World Heritage Sites during the last five years. These include:

  » Dholavira (Harappan City)
  » Kakatiya Rudreshwara (Ramappa) Temple
  » Santiniketan, India
  » Sacred Ensemble of Hoysalas
  » Moidams from Assam

6. Initiatives To Boost The Tourism Sector In India

1. Dekho Apna Desh initiative:

❖ Launched in 2020.

❖ Aims to encourage domestic travel by promoting India's rich heritage and lesser-known destinations.

2. Vibrant Villages Programme:

❖ Launched on 15th February, 2023.

❖ Financial outlay of 4800 crore for the FY 2022-23 to 2025-26.

❖ It covers 2,963 selected villages in 19 districts of northern border in the border states of Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Sikkim and Ladakh.

3. Capacity Building for Service Providers (CBSP) Scheme:

❖ Launched in 2018.

❖ To provide various short-term skill courses in the field of Hospitality and Tourism for unorganized/ organised sectors.

❖ Programmes are conducted under the CBSP Scheme:

  » Hunar Se Rozgar Tak (HSRT)
  » Entrepreneurship Programme
  » Skill Testing & Certification
  » Tourism Adventure Courses
  » Linguistic Tourist Facilitators
  » Tourism Awareness / Sensitization programme
  » Destination Based Skill Development

4. 24x7 Multi-Lingual Tourist Info-Helpline

5. E-Tourist Visa (eTV):

❖ Launched in 2014.

❖ It was launched to make travel to India trouble-free and unforgettable for foreign tourists.

❖ Initially for 43 countries, now extended to 76 nations, with plans to expand to 150 countries to boost foreign tourism.

6. RCS – UDAN (Regional Connectivity Scheme- Ude Desh Ka Aam Nagrik):

❖ Launched in 2016.

❖ Under RCS, UDAN Ministry of Tourism has collaborated with the Ministry of Civil Aviation.

❖ Approximately 519 routes got operationalised under the scheme.

7. Swadesh Darshan Scheme:

❖ Launched in 2014-15

8. PRASHAD Scheme:

❖ National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive (PRASHAD).

❖ Launched in 2014-2015.

9. HRIDAY Scheme:

❖ National Heritage City Development and Augmentation Yojana (HRIDAY)

❖ Under the Scheme, funds have been allocated to the 12 cities for the entire Mission period and directly released to the cities.

10. National Strategy for Sustainable Tourism:

❖ Launched on 4th June 2022.

❖ It has identified the strategic pillars for development of sustainable tourism.

7. Conclusion

India's tourism industry is on a promising trajectory, driven by the ambitious target of achieving a USD 3 trillion tourism economy by 2047 as part of the **Viksit Bharat@2047**. Despite facing certain challenges along the way, the sector continues to flourish, fueled by various strategic initiatives aimed at enhancing infrastructure, promoting sustainable practices, and enriching the overall visitor experience.

Places in News

Galathea Bay

The Indian government has designated Galathea Bay in the Andaman & Nicobar Islands as a 'Major Port', marking the development of a significant Rs 44,000 crore project.

- ❖ Due to its prime location near the East-West world shipping corridor, Galathea Bay Port is poised to attract both gateway and transshipped cargo. The first phase of the project is expected to be operational by 2028.
- ❖ Galathea Bay is situated on the southernmost island of the Nicobar Archipelago.
- ❖ It forms part of the Great Nicobar Biosphere Reserve, which also includes the larger Campbell Bay National Park, separated from Galathea by a 12-kilometer forest buffer zone.
- ❖ This area is also the prime nesting habitat for the Nicobar Megapode, a significant species within the ecosystem, and may provide sanctuary for other endemic wildlife as well.
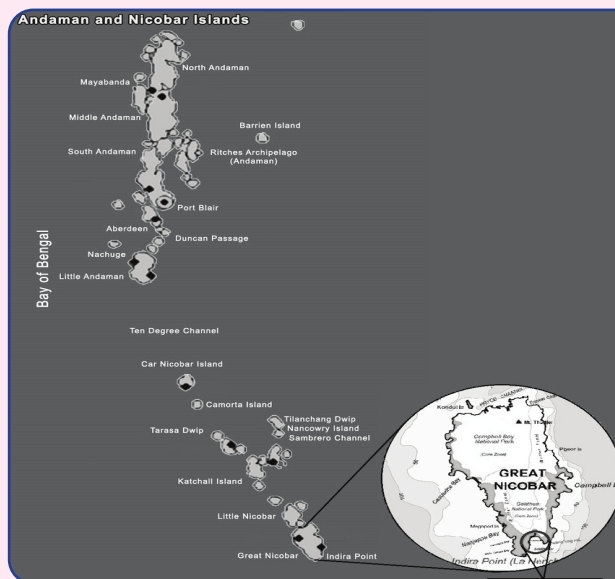
Jordon

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

- ❖ Jordan is a country in Western Asia, located at the meeting point of Asia, Africa, and Europe.
- ❖ It borders Saudi Arabia to the south and east, Iraq to the northeast, Syria to the north, and the Palestinian West Bank, Israel, and the Dead Sea to the west.
- ❖ In the southwest, it has a coastline along the Gulf of Aqaba in the Red Sea, which separates it from Egypt.
- ❖ Amman is Jordan's capital and largest city. The country has a mostly dry, semi-arid climate, and about 95% of its population is Sunni Muslim. Jordan also has significant natural resources, including the fifth-largest oil shale reserves in the world.
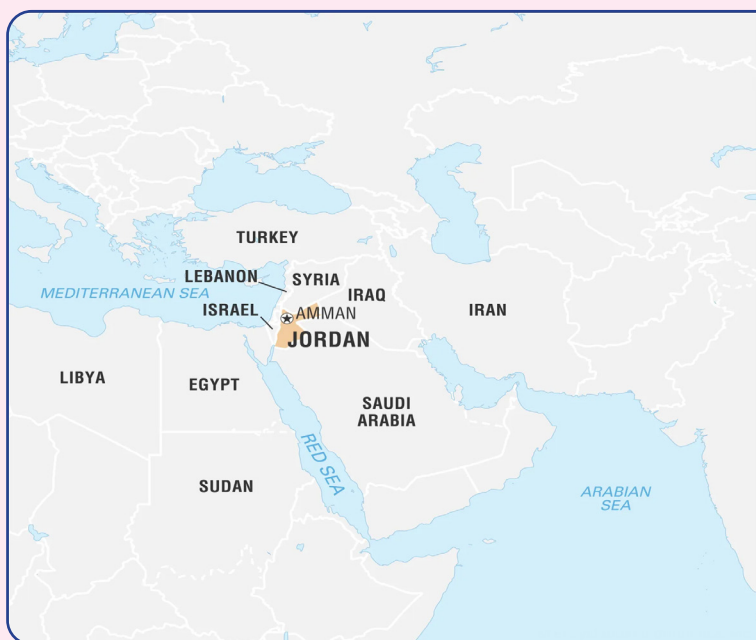
Gopalpur Port

The Odisha government has approved a proposal to transfer 95% of the equity shares of Gopalpur Port to Adani Ports and Special Economic Zone Limited (APSEZ) from Shapoorji Pallonji Port Maintenance Private Limited and Orissa Stevedores Limited.

❖ Gopalpur Port is located near Berhampur town in southern Odisha, approximately 175 km from Bhubaneswar.

❖ The port lies between Paradip Port to the north and Visakhapatnam Port to the south, positioned almost equidistantly from both.

❖ Its hinterland includes the states of Odisha, Jharkhand, and Chhattisgarh, providing access to a variety of resources such as minerals, steel, aluminum, cement and power plants.

❖ Additionally, the coal fields of Ib valley and Talcher, which account for around 25% of India's coal reserves, are also part of the port's hinterland.

Lao PDR

Commerce and Industry Minister Shri Piyush Goyal have recently co-chaired 21st ASEAN-India Economic Ministers meeting in Lao People's Democratic Republic (Lao PDR).

❖ Laos is a Southeast Asian country famous for its mountains, French colonial buildings, hill tribe communities and Buddhist monasteries.

❖ The Mekong River runs through the country and is surrounded by China to the north, Vietnam to the northeast and east, Cambodia to the south, Thailand to the west, and Myanmar to the northwest.

❖ Laos has a tropical monsoon climate with wet and dry seasons. In the north, there are tropical rainforests with broad-leaved evergreens, while the south features monsoon forests with mixed evergreen and deciduous trees.

❖ The country also includes major mountain ranges like the Annamite Range and the Luang Prabang Range. The capital city is Vientiane.

Current Affairs: Uttar Pradesh

Uttar Pradesh's New Digital Media Policy, 2024

Uttar Pradesh Cabinet has approved the 'Uttar Pradesh Digital Media Policy, 2024'.

Features of the policy:

❖ Under the policy, the government will collaborate with influencers and digital media firms to advertise. Payments will be based on the number of followers. The government has empanelled a digital agency 'V-Form' to handle advertisements.

❖ Social media agencies will be divided into four categories. The maximum payment on X, Facebook and Instagram will be Rs 5 lakh, Rs 4 lakh, Rs 3 lakh per month respectively. The maximum payment for videos and shorts on YouTube has been fixed at Rs 8 lakh, Rs 7 lakh, Rs 6 lakh and Rs 4 lakh per month respectively.

❖ There is a provision for strict punishment for disseminating abusive, vulgar and anti-national content. The culprits can be sentenced to three years to life imprisonment. Criminal defamation can also be prosecuted for obscene content.

❖ The primary goal of the new social media policy of the UP government is to make people aware about the state welfare schemes using digital platforms, ensuring that accurate and beneficial information reaches the wider audience.

Chief Minister Tourism Fellowship Program

The Uttar Pradesh government has launched the Chief Minister Tourism Fellowship Program, which aims to provide an opportunity to the youth of the state to contribute in the tourism sector.

Key points of the program:

❖ The Chief Minister Tourism Fellowship Program aims to provide an opportunity to the youth of the state to collaborate with the government on tourism strategy, management, implementation and monitoring.

❖ Under the program, the selected researchers will be trained in the overall development of tourism, culture and ecology of the state, concurrent evaluation of schemes implemented by the Central/State Government and preparing the outline of fairs and festivals of the state.

❖ Under the Chief Minister Tourism Fellowship Program, the selected researcher will be given a remuneration of Rs 30,000 and Rs 10,000 per month only for field visit.

❖ The affiliation period of the selected researcher under the Chief Minister Tourism Fellowship Program will be valid for one year from the date of assuming charge. During the program period, the researchers will work under the supervision of the District Magistrate, Divisional Commissioner and concerned tourism officials.

Grand War Memorial Museum to be built in Naya Moradabad

A plan has been announced to set up a grand War Memorial Museum in Sector-10 of Naya Moradabad area of Moradabad.

Key facts:

❖ The museum will be designed on the lines of the War Memorial in Delhi and will reflect the spirit of dedication of the martyrs of the Indian Armed Forces.

❖ The museum will be built on 10,000 square meters of land at a cost of Rs 20 crore, which will include open theaters, light and sound shows, and movie theaters, and maintenance will be done through tickets.

UP has the highest number of vehicle scrapping facility (RVSF) centers in the country

Uttar Pradesh has successfully implemented the vehicle scrapping policy of the Central Government for pollution control, making the state the leader with the highest number of RVSF (Registered Vehicle Scrapping Facility) centers in the country. For this achievement, Uttar Pradesh has received an incentive of Rs 221 crore from the Central Government.

Key Facts:

❖ Uttar Pradesh has registered the highest number of RVSF centres, of which 62 are registered and 15 are operational. As of July 31, 2024, the state has

successfully scrapped 18,843 vehicles.

❖ Haryana has 12 registered centres of which 11 are operational, Gujarat has 5 fully functional centres, Madhya Pradesh has 4 out of 6 registered centres operational, and Maharashtra and Karnataka have 3 and 2 operational centres respectively.

❖ The chief minister has termed this step as important in the direction of a green Uttar Pradesh. In this direction, the phased removal of government vehicles older than 15 years has started and private vehicles are also being encouraged to be scrapped.

❖ The vehicle scrapping policy implemented in 2021 aims to remove old vehicles and promote new, more eco-friendly vehicles.

Prayagraj and Agra will become Industrial Smart Cities

The Cabinet Committee on Economic Affairs, chaired by Prime Minister Narendra Modi, has recently approved two new industrial nodes in Agra and Prayagraj under the National Industrial Corridor Development Programme (NICDP).

Key facts:

❖ The industrial nodes set up in Agra and Prayagraj under the NICDP are designed to attract investments from large industries and micro, small and medium enterprises (MSMEs).

❖ These industrial nodes will be developed as smart cities as per global standards, based on 'plug-n-play' and 'walk-to-work' concepts.

❖ According to UP Urban Development and Energy Minister A.K. Sharma, the construction of these cities will create about 10 lakh direct and 30 lakh indirect jobs in UP.

UP's first Constitution Park to be built in Moradabad

UP's first Constitution Park will be built in Moradabad. This park aims to preserve the historical and cultural importance of the Constitution and spread awareness about the Constitution among the general public.

Key facts:

❖ The park will be constructed at a cost of Rs 9.50 crore and will be located in Sector-10 of New Moradabad.

❖ Key images of the Constitution, such as the Dandi March and flag hoisting after independence, will be displayed.

UP Pankh Portal

UP Pankh Portal is a career guidance portal recently launched by the Uttar Pradesh government. It has been specially designed for students of classes 9 to 12, so that they can avail facilities like career counseling, scholarships, skill development, and internships.

Key facts:

❖ This portal developed by the Secondary Education Council gives students an opportunity to get guidance from experts regarding career.

❖ This portal also provides real-time support for students, chatbots, and online training for teachers. Face training and online self-paced courses have also been provided for teachers.

❖ Only students of class 9 to 12 of UP Board can avail the benefits of this portal.

Sonbhadra Police Line gets international ISO tag

Sonbhadra Police Line has received ISO-9001:2015 certification from the International Organization for Standardization (ISO).

Important points:

❖ This is the first police line in eastern Uttar Pradesh to receive this prestigious certification.

❖ This certification has recognized Sonbhadra Police Line for providing better management, training, services and facilities. This is an important step towards "smart policing" and will improve the efficiency, timeliness and standard operating procedures of the police.

❖ Earlier, Gautam Buddha Nagar (Noida) Commissionerate has received ISO-9001:2015 certification.

UP top achiever State in business and Citizen Centric Reforms Sector

❖ Uttar Pradesh was declared the top achiever in business and citizen centric reforms sector at the Udyog Sammelan held in Delhi.

❖ State Industrial Development Minister Nand Gopal Gupta Nandi received this award from Union Commerce Minister Piyush Goyal.

Vedic-3D museum to be built in

Varanasi

The Uttar Pradesh government has announced to build a state-of-the-art Vedic-3D museum at Sampurnanand Sanskrit University in Varanasi, the parliamentary constituency of Prime Minister Narendra Modi.

Key points:

❖ This museum will focus on Indian astrology, astronomy and Vedic literature and will showcase 16 sanskars, 64 arts, and 18 vidyas. In particular, this museum will also showcase the research of Rishi-like acharyas and Indian constellation vidya.

❖ Rare manuscripts like the historic "Ras Panchadhyayi", Shrimad Bhagwat Geeta, and Durgasaptashati will be displayed in the museum. It aims to revive the tradition of 'Shastrartha' (spiritual discourse) and deepen the knowledge of Vedic literature.

Current Affairs: Bihar

NIFT Extension Center inaugurated in Begusarai

NIFT (National Institute of Fashion Technology) Extension Center was inaugurated in Begusarai. This center was inaugurated by Giriraj Singh, Textile Minister, Government of India.

❖ This extension center is being set up in Jemra area, in front of HPCL.

❖ Initially, this institute will provide training to Jeevika Didi and people interested in fashion designing. In the next academic session, students will be enrolled on the basis of entrance examination.

❖ The main objective of this center is to encourage local artists. Along with this, local students interested in the field of fashion will be provided training in various subjects, so that they can get better opportunities in this industry.

Jeevika Didi Haat

The Bihar government has decided to open Jeevika Didi Haat in Bihar on the lines of Delhi Haat, in which local products and services will be available.

Key points:

❖ Mithila paintings, crafts, pickles, live fish, Sudha milk, green vegetables and Jan Aushadhi will be available in Jeevika Didi Haat. Facilities like electricity, cleanliness and Didi's kitchen will be provided in the Haat.

❖ It will be opened in old government buildings of Samastipur, Bhojpur, and Nalanda. Its purpose is to provide business skills and market to the women of Jeevika group.

Replicas of 7 Wonders of the World will be built in Silaunja, Bodh Gaya

The Bihar Tourism Department has decided to build replicas of 'seven wonders' in Silaunja, this step has been taken towards promoting experience based tourism in the state.

Important points:

❖ In this replica, replicas of Pyramid of Giza, Colosseum of Rome, Taj Mahal, Great Wall of China, Petra, Mole of Chile, and Christ of Redeemer will be made. This scheme will promote tourism and Silaunja will emerge as a major tourist destination.

❖ An amount of Rs 14.85 crore has been approved for this.

National Teacher Award 2024 to two teachers from Bihar

Two teachers from Bihar, Dr. Meenakshi Kumari and Sikandar Kumar Suman have been selected for the National Teacher Award 2024. The Union Ministry of Education has made this announcement in recognition of their remarkable educational contributions. They were honored on 5 September at Vigyan Bhavan in New Delhi.

Key Points:

❖ Dr. Meenakshi Kumari is an assistant teacher at Shivganga Girls Plus Two High School, Madhubani. She is running a campaign 'Khud Bhi Padho, Aur Ko Bhi Padhao' for girls. Hundreds of girl students were connected to this campaign and inspired to teach others.

❖ Sikandar Kumar Suman is the Principal of New Primary School, Tarhani, Kaimur. Significant contribution in making the children of government schools technically empowered. Smart class and email ID facilities were provided to all the students.

Bihar's performance in the SDG Index 2023-24

Bihar has been at the bottom in the Sustainable Development Goals (SDG) Index 2023-24 released by NITI Aayog. With 57 points, Bihar's performance highlights the development challenges of the state.

Key Points:

❖ Bihar has got 39 out of 100 marks in the poverty eradication goal under the Sustainable Development Goals, which is the lowest compared to other states. According to the Multidimensional Poverty Index (MPI), the poverty ratio in Bihar is 33.76%.

❖ The percentage of families covered by health schemes or insurance in Bihar is only 17.4%.

❖ Bihar has got only 24 marks in the goal of eliminating hunger and malnutrition, which is the lowest among all the states.

❖ 41% of children under five years of age in Bihar are underweight and 42.9% are malnourished.

❖ 63.1 percent of pregnant women aged 15-49 years in the state are anaemic (lack of blood in the body).

❖ Bihar's maternal mortality rate is 118 per 100,000 births. Under-five mortality rate is 30 per 1,000 births.

❖ The state has an enrolment rate of 97% in classes 1-8, a dropout rate of 20.5% in classes 9-10 and an enrolment ratio of just 35.9% in higher secondary education, indicating a barrier to students' access to higher education.

Current Affairs: Rajasthan

Rajasthan gets National e-Governance Award for technology-based innovative use in silicosis diagnosis

The Department of Administrative Reforms and Public Grievances of the Central Government awarded the National e-Governance (Gold) Award 2024 to the Government of Rajasthan for the use of emerging technologies in silicosis diagnosis and relief. The award was presented at the 27th National e-Governance Conference held in Mumbai.

Key Points:

❖ The award has been given by the state for the innovative use of tele-radiology and artificial intelligence (AI) for the identification of silicosis disease and the creation of a self-approval portal of Direct Benefit Transfer (DBT) to provide relief to the affected persons

❖ The biggest role in this innovative work is of Dr. Samit Sharma, under whose leadership Rajasthan has set national standards in solving complex health challenges.

❖ These awards are given every year by the Department of Administrative Reforms and Public Grievances of the Government of India, which recognizes innovations in e-governance.

Bhilwara and Pali became municipal corporations

The Rajasthan state government has given the status of municipal corporation to the Municipal Councils of Bhilwara and Pali. Apart from this, the category of many municipalities has also been improved.

Important points:

❖ At present there are a total of 13 municipal corporations in Rajasthan (Jaipur Greater, Jaipur Heritage, Jodhpur North, Jodhpur South, Kota North, Kota South, Ajmer, Udaipur, Bikaner, Bharatpur, Alwar, Bhilwara, Pali).

❖ The state government has declared Nagar Palika Pushkar, Nagar Palika Lalsot and Nagar Palika Shahpura (Jaipur) as Municipal Councils.

❖ According to the notification, now the Gram Panchayats of Kudi Bhagatsani and Tinwari of Jodhpur, Gram Panchayat Jamwaramgarh of Jaipur, Gram Panchayat Dundlod, Sultana and Jakhal of Jhunjhunu and Gram Panchayat Sayla of Jalore have been declared as fourth class municipalities.

❖ Mahwa of Dausa, Taranagar of Churu, Losal of Sikar and Bandikui Municipal Corporation of Dausa have been upgraded.

33% reservation for women in Rajasthan Police

❖ The Rajasthan Cabinet, led by CM Bhajan Lal Sharma, has taken the decision to provide 33% reservation for women in the police force. The decision was taken as part of the BJP's 2023 assembly election manifesto, which promised to increase

female representation in law enforcement.

❖ The notification amending the Rajasthan Police Subordinate Services Rules, 1989, will be issued by the Personnel Department soon.

'Heal in Rajasthan' Policy

The Rajasthan government has decided to launch the 'Heal in Rajasthan' policy soon to attract international tourists.

Key Points:

❖ A Medical Value Travel Committee has been appointed to formulate the 'Heal in Rajasthan' policy, which will include representatives from various departments and organisations.

❖ The main focus of this policy is on health, and traditional medicine-based treatments.

❖ The policy aims to develop Jaipur and other cities as major centres of medical tourism.

❖ The state government has allocated 8.26% for the health sector in the 2024 budget.

❖ The Department of Medical and Health will set up high-level facilities in collaboration with BIP and CII, which will attract foreign and domestic patients.

Rajasthan Government launches Gopal Credit Card Loan Scheme Portal

❖ The Rajasthan government has launched the Rajasthan Cooperative Gopal Credit Card Loan Scheme Portal. The aim of this new initiative is to provide loan facility of up to one lakh rupees to Gopalak farmers.

❖ Cooperative Minister Gautam Kumar Dak launched this portal and said that its main objective is to make loan distribution transparent. The government has set a target of giving loans to five lakh farmers under this scheme and interest subsidy will also be provided on it.

IITian Vipra Goyal gets 'Best Rural Development Initiative' Award

❖ IITian Vipra Goyal was awarded the 'Best Rural Development Initiative' award for making the Chareda Gram Panchayat of Dausa district the country's first water-energy-employment self-reliant Gram Panchayat.

❖ In the Chareda Gram Panchayat, Vipra Goyal is

arranging year-round water for the local farmers by digging 10-feet deep ponds on 5% of the land of the resident farmers.

Current Affairs: Madhya Pradesh

MP became the first state in the country to provide AYUSH services in urban primary health centers

Madhya Pradesh has made progress in the expansion of AYUSH services and has become the first state in the country to provide AYUSH services in all 328 urban primary health centers.

Key points:

❖ Madhya Pradesh is at third place in terms of availability of AYUSH doctors in tribal areas. AYUSH facilities are also being provided in 695 centers in rural areas.

❖ There are 1440 rural and 328 urban primary health centers in the state. The number of community health centers is 332. The number of sub health centers has increased to 10258, which provide primary health services in villages.

MP: Sending money to the bank accounts of girl students for sanitary pads

Madhya Pradesh government is providing cash to school girls to buy sanitary napkins to promote hygiene and health of adolescent girls, making Madhya Pradesh the first state in the country to do so.

Important Points:

❖ Under the "Sanitation and Hygiene Scheme", students from class VII to XII are being given Rs 300 cash for one year under this scheme. So far, an amount of more than Rs 57 crore has been transferred to more than 19 lakh girl students.

❖ According to the data of the National Family Health Survey (NFHS), 62% of young women in the age group of 15 to 24 years in the country still use cloth instead of hygienic means during menstruation.

Vijay Yadav becomes the new CIC of

the state

❖ The Madhya Pradesh government has appointed Chief Information Commissioner and Information Commissioners in the State Information Commission after a long time.

❖ Retired Special Director General of Police Vijay Yadav has been appointed as the Chief Information Commissioner.

❖ In addition, three Information Commissioners were also selected: educationist Umashankar Pachauri, social worker Vandana Gandhi, and retired judge Omkar Nath.

❖ These appointments are expected to increase administrative efficiency and transparency in the State Information Commission, and these selections have been made on the basis of their special qualifications and experience.

'Vrindavan Gram' Yojana

The Madhya Pradesh government has approved the 'Vrindavan Gram' scheme, which will establish beneficial 'gaushalas' and other facilities in rural areas.

Key points:

❖ Under the scheme, one Gram Panchayat from each of the 313 blocks of Madhya Pradesh will be selected, which will be named 'Vrindavan Gram'.

❖ Roof-top solar policy facility will also be made available in the selected Gram Panchayats. The scheme will be implemented by the Panchayat and Rural Development Department.

❖ The objective of the 'Vrindavan Gram' scheme will be to promote milk production in villages and increase the income of farmers.

Current Affairs: Jharkand

Mukhyamantri Maiyan Samman Yojana

❖ Jharkhand State Government has launched the Chief Minister Maiyan Samman Yojana for the development of women. The main objective of this scheme is to provide financial assistance of 1000 every month to women between the ages of 21 and 50 years. This scheme will provide financial assistance to women from poor families for basic necessities, so that their standard of living can improve.

New schemes announced by Jharkhand State Government for the welfare of lawyers

Jharkhand government has approved welfare schemes for lawyers in a cabinet meeting chaired by CM Hemant Soren on September 6, 2024.

Key Points:

❖ Medical insurance cover of Rs 5 lakh has been provided for more than 30,000 lawyers across the state.

❖ Advocates aged 65 years and above will now get a monthly pension of Rs 14,000.

❖ Newly enrolled lawyers will be given a monthly stipend of Rs 5,000 for the first five years of their practice.

Attendance Portal

❖ CM Hemant Soren has launched the 'Attendance Portal' to ensure the daily attendance of all doctors, paramedical personnel, contract workers and other employees working under the Department of Health, Medical Education and Family Welfare. Cross verification of biometric attendance will be done from this portal, so that strict monitoring of the attendance of the personnel can be done.

Current Affairs: Uttarakhand

Uttarakhand Public and Private Property Damage Recovery Act 2024

The Uttarakhand government has enacted a historic law for damage recovery of public and private property, which will ensure compensation for losses caused during riots and unrest.

Key Points:

❖ If public or private properties are damaged during any movement or shutdown, then it will be compensated from the person or leader who called for the respective movement or shutdown.

❖ Along with this, not only the property damage will be

compensated, but the person or leader will also have to pay a fine of up to Rs 8 lakh and the government expenditure incurred in riot control.

❖ A tribunal headed by a former judge will be set up to determine the amount of compensation and issue recovery notices.

❖ In cases where the dues are not paid, the law provides for a possible jail term and cash penalty.

Sinla Pass Trek: "Trek of the Year" 2024

Sinla Pass located in Pithoragarh district of Uttarakhand has been given the status of "Trek of the Year" 2024.

Key Points:

❖ The height of Sinla Pass is 5600 meters, which connects Darma Valley to Vyas Valley. This 37 km long trek starts from Bidang village of Darma Valley.

❖ Tourists can experience natural beauty and amazing views during trekking. The end point of this trek is the famous Adi Kailash mountain, which is located in Vyas Valley.

10% reservation in government jobs for state agitators in Uttarakhand

❖ Bill to provide 10% reservation in government jobs for state agitators in Uttarakhand has been approved by Governor Lieutenant General Gurmeet Singh. This bill provides a solution to the long-standing demands of the state agitators and seeks to improve their socio-economic condition.

Current Affairs:
Haryana

Gurugram Police Commissioner Vikas Arora gets President's Medal

❖ Gurugram Police Commissioner Vikas Kumar Arora has been selected for the President's Medal for his distinguished services. Arora is a 1998 batch IPS officer and has been serving as Gurugram Police Commissioner since August 2023.

❖ As Faridabad Police Commissioner, he took strict action in online fraud cases and got hundreds of criminals arrested.

❖ Along with Arora, 11 other police officers and personnel from Haryana have also been selected for this prestigious honor.

Har Ghar-Har Grihini Portal

Haryana Chief Minister Shri Nayab Singh Saini launched 'Har Ghar-Har Grihini Portal' on the occasion of Hariyali Teej.

Important Points:

❖ The portal aims to provide LPG cylinders to 50 lakh BPL families of the state for just Rs 500. This digital initiative will provide easy and accessible access to LPG to poor and Antyodaya families.

❖ If the price of the cylinder exceeds Rs 500, the excess amount will be refunded to the bank accounts of the beneficiaries through Direct Benefit Transfer (DBT). This initiative will provide financial relief to 50 lakh BPL families of the state.

Haryana Green Manifesto 2024:

Environmentalists and civil society of Haryana have released the 'Green Manifesto 2024' to focus on the environmental challenges of the state. The manifesto aims to address air pollution, water crisis and protection of natural ecosystems.

Key demands of the manifesto:

❖ **Identification of Critical Ecological Zones:** There is a demand to designate important ecological areas like Aravalli and Shivalik Hills as 'Critical Ecological Zones', so that these areas can be provided legal protection.

❖ **Tree Act:** The need for a stringent 'Tree Act' on the lines of Delhi Tree Protection Act, 1994 for tree and forest conservation in Haryana has been stressed.

❖ **Establishment of Sewage Treatment Plants:** Setting up of sewage treatment plants for cleaning all polluted ponds and other water bodies in rural and urban Haryana has been demanded.

❖ **Establishment of Community Reserves:** It has been proposed to revive the local forest in each village with the participation of local communities and legally designate them as 'Community Reserves'.

❖ **Tree Pension Scheme:** Monetary incentives in the form of 'Tree Pension' have been demanded to encourage farmers to plant native trees.

❖ **Conservation of Traditional Trees:** Efforts should be made to re-grow and conserve the endangered traditional trees of Haryana such as Lesoda, Khejri,

Indrok and Jaal.

NDRI gets second place in 'Agriculture and Allied Category' in NIRF-2024

❖ ICAR-National Dairy Research Institute (NDRI) has secured second place in the 'Agriculture and Allied Category' in the National Institutional Ranking Framework (NIRF)-2024 of the Union Ministry of Higher Education.

❖ The award was presented to NDRI Director and Vice Chancellor Dheer Singh by Union Education Minister Dharmendra Pradhan at the India Ranking 2024 award ceremony held in New Delhi.

❖ The ranking was done on the basis of teaching, learning and resources, research and professional practice, graduate outcomes, outreach and inclusiveness, and peer perception.

Haryana gets second place in Jal Shakti Abhiyan

Haryana has secured second place under 'Catch the Rain' in the Jal Shakti Abhiyan of the Union Jal Shakti Ministry.

Key points:

❖ Chief Secretary TVSN Prasad spoke on the success of the Jal Shakti Abhiyan, stated that more than 65,000 rainwater conservation structures and geo-tagging of 18,104 water reservoirs have been done under the campaign.

❖ More than 3.5 crore saplings have been planted in the state and about 70,000 training programmes and farmers' fairs have been organised. Apart from this, Jal Shakti Centres have been established and district-specific water conservation plans have been made.

❖ The 'Catch the Rain' campaign has shown effective results, with water levels rising by 1.3 metres in 12 districts in 2023, 0.58 metres in 19 districts in 2022, and 0.57 metres in 7 districts in 2021.

Current Affairs: Chhattisgarh

17th Divya Kala Mela inaugurated in Raipur

The 17th Divya Kala Mela was inaugurated by Dr. Virendra Kumar, Minister of Social Justice and Empowerment, Government of India in Raipur, Chhattisgarh.

Key Details:

❖ The fair aims to develop the skills of Divyang artists and provide them a platform to showcase their products.

❖ More than 100 Divyang artisans, artists and entrepreneurs from around 20 states and union territories are participating in the fair.

❖ Union Minister Dr. Virendra Kumar has proposed a Divyangjan Dedicated Park in Raipur, which has been approved by the state Chief Minister Vishnu Dev Sai. The Chief Minister has agreed to allocate 5 acres of land for the project.

❖ The state government is planning to start diploma, undergraduate and postgraduate courses to enhance educational opportunities for Divyangjans.

❖ A new State Resource Center (SRC) building will be constructed in Rajnandgaon to ensure convenient availability of these courses.

❖ Participants showcased a wide range of products including home decor, lifestyle items, clothing, eco-friendly products and packaged food items.

❖ Divyakala Mela was launched by the Government of India in 2022 to economically empower disabled (Divyang) artists.

Chhattisgarh gets Best Achiever Award in the field of Sericulture

Chhattisgarh has received the "Best Achiever Award" certifying its excellence in the field of silk rearing. The award was presented to the farmers of Chhattisgarh by Union Minister Giriraj Singh on the 75th foundation day of the Central Silk Board.

Key Points:

❖ Santosh Kumar Dewangan and Ganesh Ram Sidar were honoured for their excellence as tussar worm rearer and yarn maker.

❖ The famous silk of Chhattisgarh is Kosa silk. Korba, Janjgir-Champa, Jagdalpur, Raigarh districts are famous for its production.

Power Packed News

Exercise Eastern Bridge VII

❖ An Indian Air Force contingent, featuring MiG-29s, Jaguars and C-17s, participated in the seventh edition of Exercise Eastern Bridge at Masirah Air Force Base, Oman.

❖ This bilateral exercise with the Royal Oman Air Force aims to enhance interoperability and strengthen strategic cooperation. It includes joint training missions focusing on complex aerial maneuvers, air-to-air and air-to-ground operations and logistical coordination.

❖ The first edition of Exercise Eastern Bridge between the Indian Air Force and the Royal Oman Air Force took place in 2009 at Thumrait, Oman.

❖ Alongside this, India engages in other key military exercises with Oman, including Naseem Al-Bahr with the Royal Navy of Oman and AL Najah with the Royal Army of Oman.

❖ Oman's strategic location, near the entrance to the Strait of Hormuz and overlooking the Arabian Sea, makes it a crucial partner for India in West Asia and the Indian Ocean region.

Bharatiya Antariksh Station (BAS-1)

❖ The Government of India has approved the development of the first unit of the Indian Space Station called Bharatiya Antariksh Station (BAS-1).

❖ The Indian Space Research Organisation (ISRO) is planning a series of Gaganyaan and Chandrayaan follow-up missions, along with the development of space transportation and infrastructure capabilities, to meet its long-term goals.

❖ This progress represents a significant milestone toward India operationalizing its own space station by 2035 and lays the groundwork for a crewed mission to the Moon by 2040.

❖ Currently, the International Space Station (ISS) and China's Tiangong Space Station (TSS) are the two active space stations orbiting the Earth.
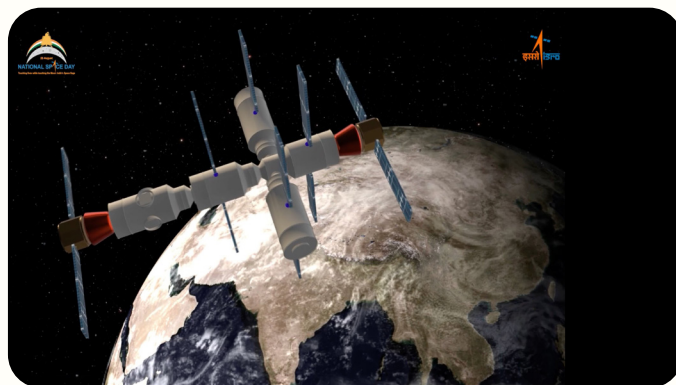
REC Signs Agreements With Renewable Energy Companies

❖ REC Limited, one of India's leading infrastructure financing companies, has signed non-binding MoUs with renewable energy developers for projects worth about Rs 1.12 lakh crore.

❖ The agreements were signed during the 4th Global Renewable Energy Investor Summit and Expo (RE-INVEST 2024) held in Gujarat.

❖ REC Limited plans to support the country's target to increase non-fossil based generation capacity from 200 GW to 500 GW by 2030.

Squadron Leader Mohana Singh

❖ Squadron Leader Mohana Singh has become the first woman fighter pilot to join the 'Flying Bullets' squadron of the 'Made in India' LCA Tejas fighter jet.

❖ She was part of the first group of three women to become fighter pilots in the Indian Air Force.

❖ Since the government opened up the fighter aviation sector to women in 2016, there are around 20 active women fighter pilots in the IAF.

Asian Champions Trophy

❖ The Indian men's hockey team recently won the Asian Champions Trophy title by defeating hosts China 1-0 in the final at the Moqi Hockey Training Base, Hulunbuir, China.

❖ India won their fifth title, becoming the most successful team in the history of the tournament.

❖ The Indian team played the final for the sixth time in the eight Asian Champions Trophy hockey tournaments held so far.

Anmol Kharab

❖ Badminton player Anmol Kharab won her first international title at the senior level by winning the women's singles title at the Belgium International 2024 badminton tournament.

❖ Anmol defeated Denmark's Amalie Schulz 24-22, 12-21, 21-10 in the final.

❖ Anmol also performed strongly against Bulgaria's Kaloyan Nalbantova in the semi-finals. She won the match by a score of 21-13, 24-26, 21-19 to make it to the final.

Global Bio-India 2024

❖ The fourth edition of Global Bio-India 2024 was organized by the Department of Biotechnology, Ministry of Science and Technology.

❖ Global Bio-India 2024 was organized under the theme 'Potential and Opportunities in Biotech Innovation' and 'Bio-Manufacturing' and its Impact on Bioeconomy.

❖ It was held from 12th to 14th September at Pragati Maidan, New Delhi in collaboration with Biotechnology Industry Research Assistance Council.

Amrut Mohan Prasad

❖ The Government of India has appointed Amrut Mohan Prasad as the new Director General of the Sashastra Seema Bal (SSB).

❖ Amrut Mohan Prasad is a senior Indian Police Service (IPS) officer of the 1989 batch and belongs to the Odisha cadre.

❖ Currently, he is serving as Special Director General of the Central Reserve Police Force (CRPF). His term of appointment as Director General of SSB will be till August 31, 2025, which is the date of his retirement.

❖ The Sashastra Seema Bal is one of the Central Armed Police Forces under the control of the Ministry of Home Affairs.

❖ It was formed in 1963, and is entrusted with the task of protecting and guarding the Nepal-Bhutan border.

Subhadra Yojana

❖ PM Narendra Modi launched the Subhadra Yojana, a flagship initiative of the Odisha government, in Bhubaneswar. The scheme is the state's largest women-focused initiative, aimed at providing assistance to over 1 crore women.

❖ Under the Subhadra Yojana, eligible beneficiaries between the ages of 21 and 60 will be given assistance of Rs 50,000 over five years.

❖ The amount will be provided as Rs 10,000 annually in two equal instalments through Aadhaar-linked, DBT-enabled bank accounts.

Algeria Joins BRICS New Development Bank

❖ Algeria's membership in the BRICS New Development Bank (NDB) has been officially approved. The

announcement was made by NDB chief Dilma Rousseff at a meeting held in Cape Town, South Africa.

BRICS New Development Bank (NDB):

❖ The BRICS New Development Bank was established in 2015 with the aim of mobilizing resources for projects in emerging markets and developing countries. Its founding members are Brazil, Russia, India, China and South Africa.

❖ The main objective of the NDB is to provide an alternative to international financial institutions like the World Bank and the International Monetary Fund.

❖ It provides financial assistance and investment opportunities to developing countries, helping them improve their economic condition.

Delhi Declaration

❖ Prime Minister Narendra Modi announced the unanimous adoption of the Delhi Declaration on Civil Aviation following the 2nd Asia-Pacific Ministerial Conference held in New Delhi.

❖ The Declaration lays down a comprehensive framework for promoting regional cooperation in the civil aviation sector in the Asia-Pacific region.

❖ The 2nd Asia-Pacific Ministerial Conference on Civil Aviation was held on 11-12 September 2024 at Bharat Mandapam in New Delhi, India.

❖ It was organized by the Government of India in collaboration with the International Civil Aviation Organization (ICAO).

Prashanthi Ram wins Singapore Literature Prize

❖ Indian-origin lecturer Prashanthi Ram has received the Singapore Literature Prize for her book "Nine Yard Sari". She teaches at Nanyang Technological University and her short story book was published in 2023.

❖ The Singapore Literature Prize is a biennial award that recognizes outstanding published works by Singaporean authors in any of the country's four official languages: Chinese, English, Malay, and Tamil.

❖ The competition is organized by the Singapore Book Council (SBC) with the support of the National Arts Council.

National Florence Nightingale Award

❖ President Draupadi Murmu has conferred the National Florence Nightingale Award 2024 to nurses. The award is given to recognize excellence in the field of nursing and to honour meritorious services.

❖ The National Florence Nightingale Award was instituted in 1973 by the Ministry of Health and Family Welfare as a mark of recognition for the meritorious services rendered by the nurses and nursing professionals to the society.

❖ A total of 15 awards are given in the category of Registered Auxiliary Nurses & Midwife, Registered Nurses and Midwife and Registered Lady Visitor. Each award consists of a Certificate of Merit, Cash Award of Rs.1,00,000/- and a medal.

❖ The award is given in memory of Florence J Nightingale, a great icon of nursing, who gave nursing a professional identity.

Chamran-1 Satellite

❖ Iran successfully launched the Chamran-1 research satellite into orbit using the QAIM-100 rocket, developed

by the paramilitary Revolutionary Guard. This launch marks a significant milestone in Iran's aerospace program

About Chamran-1 satellite:

- ❖ The Chamran-1 is an Iranian research satellite designed and manufactured by Iranian engineers at Iran Electronics Industries (SAIran).
- ❖ Weighing 60 kilograms, Chamran-1 has been placed in a 550-kilometer orbit and is designed to test "hardware and software systems for orbital operation technology.
- ❖ Additionally, it has secondary tasks that include assessing the performance of cold gas propulsion subsystems in space systems and evaluating navigation and attitude control subsystems.
- ❖ The QAIM-100 rocket is the first three-stage solid-fuel satellite launcher developed by Iran's Aerospace Force of the Islamic Revolutionary Guard Corps (IRGC). It operates on solid fuel.

Sri Vijayapuram

- ❖ The Government of India has decided to rename Port Blair in Andaman and Nicobar Islands as Sri Vijayapuram.
- ❖ Sri Vijayapuram will be the capital of the Union Territory of Andaman and Nicobar Islands.
- ❖ Prime Minister Narendra Modi recently announced to name 21 large, unnamed UT islands after Param Vir Chakra recipients in honor of Parakram Diwas.
- ❖ Additionally, he announced to make Netaji Subhash Chandra Bose Island, formerly known as Ross Island, a national memorial.

76th Emmy Awards Ceremony

- ❖ The 76th Emmy Awards ceremony was recently held at the Peacock Theatre in Los Angeles.

List of major winners:

- ❖ Outstanding Drama Series award went to Shogun.
- ❖ Outstanding Comedy Series award went to Hacks.
- ❖ Four awards in the limited series or TV movie category went to "Baby Reindeer".
- ❖ Best Direction in Comedy was won by Christopher Storer, who directed The Bear Fish.
- ❖ Jodie Foster won the Emmy Award for Lead Actress in a Limited Series.
- ❖ Richard Gadd won his first Emmy for writing Baby Reindeer.
- ❖ Hiroyuki Sanada won Outstanding Lead Actor in a Drama Series for Shogun.

MSCI Emerging Markets Investable Market Index

- ❖ India has surpassed China in the MSCI Emerging Markets Investable Market Index (MSCI EM IMI), which could bring $4-4.5 billion in investments into Indian stocks.
- ❖ India's weight in the index is now 22.27%, higher than China's 21.58%. This shift is driven by a 47% rise in foreign direct investment (FDI) in early 2024, lower Brent crude prices, and strong foreign investment in Indian debt markets.
- ❖ The MSCI Emerging Markets Investable Market Index (EM IMI) is a comprehensive index that includes large, mid and small-cap stocks from 24 emerging market countries with top Indian companies like Reliance, Infosys, and ICICI Bank.
- ❖ India's strong market performance reflects favorable economic conditions, while China's market has struggled.

Exercise Varuna

❖ INS Tabar, a frontline stealth frigate of the Indian Navy, recently participated in the 22nd edition of the bilateral IN-FN Exercise Varuna in the Mediterranean Sea.

❖ The Indian Navy was represented by INS Tabar, a ship-borne helicopter and P8I aircraft, while France was represented by FS Provence, Submarine Suffren, aircraft F20, Atlantique 2, and various helicopters and fighters.

❖ The exercise involved advanced naval operations such as anti-submarine warfare, air defense drills, live weapon firings and tactical maneuvers.

❖ Initiated in 2001, Ex. Varuna has become a cornerstone of the Indian-French naval relationship, promoting interoperability and the exchange of best practices.

Swachh Vayu Survekshan Award, 2024

❖ The International Day of Clean Air for Blue Skies (Swachh Vayu Diwas) was observed on 7th September 2024. Hosted by the Rajasthan State Pollution Control Board, the event highlighted achievements of the National Clean Air Program (NCAP), showing air pollution reduction in 95 of 131 cities since 2017-18.

❖ The Swachh Vayu Survekshan Award 2024 was presented to the best-performing cities under the National Clean Air Campaign (NCAP) across three categories based on population.

The winners are:

❖ Category-1 (population over 10 lakhs): Surat, Jabalpur, and Agra.

❖ Category-2 (population between 3-10 lakhs): Firozabad, Amravati, and Jhansi.

❖ Category-3 (population under 3 lakhs): Raebareli, Nalgonda, and Nalagarh.

❖ The Swachh Vayu Survekshan is an initiative by the Ministry of Environment, Forest and Climate Change (MoEFCC) that ranks cities based on air quality and the implementation of activities under NCAP.

❖ It focuses on 131 non-attainment cities, which are those that failed to meet National Ambient Air Quality Standards (NAAQS) for PM10 or NO2 over a five-year period.

Mercury's South Pole

❖ The BepiColombo spacecraft, a joint mission by the European Space Agency (ESA) and Japan, made its closest approach to Mercury, capturing images and providing scientists with their first clear view of Mercury's south pole and detailed several craters, including peak ring basins with unusual structures.

❖ BepiColombo, launched in 2018, will enter Mercury's orbit in 2026 after overcoming delays caused by issues with its thrusters.

❖ BepiColombo has two orbiters, one focused on studying Mercury's landscape and the other on its space environment. Scientists hope to learn more about the planet's origins, evolution, geology and magnetic field, particularly the peak ring basins, which may be linked to ancient volcanism.

❖ Mercury, the least-studied rocky planet in the solar system, presents a challenge due to the spacecraft's acceleration toward the Sun. To slow down, BepiColombo is using a
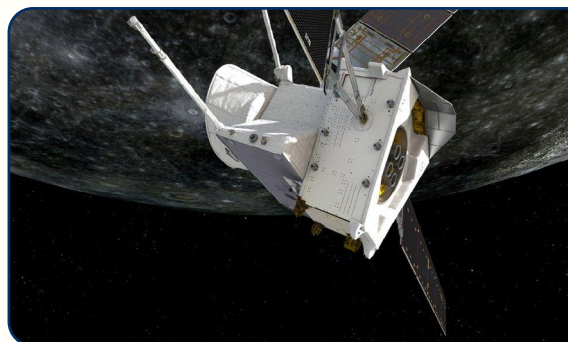
series of flybys around Earth, Venus and Mercury.

❖ The recent flyby, the fourth of six planned around Mercury, brought the spacecraft within 103 miles of the planet's surface. The mission will conduct two more flybys in December and January before entering Mercury's orbit by the end of 2026.

INDIAsize Initiative

❖ The Indian government is set to launch the 'INDIAsize' initiative, aimed at establishing standardized measurements tailored to Indian body types.

❖ Currently, both international and domestic brands in India use US or UK sizing, which often leads to fitting issues due to differences in height, weight, and body measurements between Western and Indian populations.

❖ The Ministry of Textiles has sanctioned the INDIAsize project to create standard body sizes for the Indian apparel sector, addressing existing disparities in garment fits.

VisioNxt Initiative

❖ VisioNxt is an initiative established by the National Institute of Fashion Technology (NIFT) in collaboration with the Ministry of Textiles, Government of India, in 2018 now centralized in Chennai.

❖ VisioNxt combines Artificial Intelligence (AI) with Emotional Intelligence (EI) to provide tailored fashion trend insights for the Indian market.

❖ Its mission is to analyze geo-specific trends that reflect India's cultural diversity and socio-economic nuances, reducing reliance on global forecasting agencies.

❖ A standout feature is the "DeepVision" model, which employs convolutional neural networks to identify attributes of over 60 Indian wear and 40 western wear categories.

Anusandhan National Research Foundation

❖ PM Narendra Modi chaired the inaugural meeting of the Governing Board of the Anusandhan National Research Foundation (ANRF).

❖ The meeting focused on India's science & technology landscape and the redesign of research and development programs.

❖ ANRF aims to launch solution-focused research programs in priority areas such as Electric Vehicle mobility, Advanced Materials, and Sustainable Agriculture, contributing to Aatmanirbhar Bharat.

About Anusandhan National Research Foundation:

❖ Anusandhan National Research Foundation has been established to promote research and development and foster a culture of research and innovation throughout India's Universities, Colleges, Research Institutions and R&D laboratories.

❖ ANRF acts as an apex body to provide high-level strategic direction of scientific research in the country as per recommendations of the National Education Policy.

❖ ANRF forges collaborations among the industry, academia, and government departments and research institutions.

Pradhan Mantri Awas Yojana-Gramin (PMAY-G)

❖ The Centre has changed the rules for the Pradhan Mantri Awas Yojana-Gramin (PMAY-G), now allowing families who own two-wheelers, motorized fishing boats, refrigerators, landline phones, and earn up to Rs 15,000 a month to participate in the rural housing scheme.

Pradhan Mantri Awas Yojana – Gramin:

❖ The Pradhan Mantri Awas Yojana – Gramin was launched in 2016, aiming to provide housing for the poorest segments of society.

- Beneficiaries are selected through a rigorous three-stage validation process that includes the Socio-Economic Caste Census 2011, Gram Sabha approvals, and geo-tagging. This ensures that aid reaches the most deserving individuals.
- The scheme has further incorporated the use of IT and Direct Benefit Transfer (DBT) for efficient fund disbursement, the implementation of region-specific housing designs, and evidence-based monitoring through geo-tagged photos at various construction stages.

Ayushman Bharat Pradhan Mantri Jan Arogya Yojana

- The Union Cabinet, chaired by PM Narendra Modi, has approved health coverage for all senior citizens aged 70 and above under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), regardless of income.
- This initiative aims to benefit approximately 4.5 crore families, equating to six crore senior citizens, with a free health insurance cover of 5 lakh per family annually.
- Eligible senior citizens will receive a distinct card under AB PM-JAY, and those from families already covered will get an additional top-up of 5 lakh per year for themselves, separate from the family's coverage.
- Senior citizens aged 70 and above already enrolled in other public health schemes can choose to remain with their current plan or switch to AB PM-JAY.

About AB PM-JAY:
- The AB PM-JAY is the world's largest publicly funded health assurance scheme, offering health coverage of 5 lakh per family per year for secondary and tertiary care hospitalization to 55 crore individuals.
- Since its launch, the scheme has facilitated over 7.37 crore hospital admissions, benefiting the public with more than 1 lakh crore.
- This expansion aligns with the government's continuous efforts to enhance healthcare access for vulnerable populations.

Inner Line Permit For Three Districts Of Nagaland

- The Nagaland State Government has approved the implementation of the Inner Line Permit (ILP) in Chumoukedima, Niuland, and Dimapur districts, following a Cabinet meeting chaired by Chief Minister Neiphiu Rio.
- Minister for Tourism and Higher Education, Temjen Imna Along, announced that residents of Dimapur will be classified into three categories regarding ILP requirements.
- Additionally, certain groups, including students, teachers, technical personnel, and business partners, may receive an ILP valid for two to five years based on their purpose of stay.
- The government aims to enhance the digital system for ILP issuance to streamline the application process.

About Inner Line Permit:
- Inner Line Permit (ILP) is an official travel document issued by the Government of India to allow inward travel of an Indian citizen into a protected area for a limited period.
- The Inner Line Permit (ILP) system is rooted in the Bengal Eastern Frontier Regulations of 1873, which aimed to protect the Crown's interests in the tea, oil, and elephant trade.
- This regulation prohibited "British subjects" from entering designated "Protected Areas" to prevent them from establishing commercial ventures that could compete with the Crown's agents.

❖ Currently, the ILP system is enforced in four Northeastern states: Arunachal Pradesh, Nagaland, Mizoram, and now Manipur.

Exercise Al Najah V

❖ The Indian Army contingent has departed for the 5th edition of the India-Oman Joint Military Exercise Al Najah at the Rabkoot Training Area in Salalah, Oman.

❖ This exercise has been held biennially since 2015, alternating between the two nations, with the last edition conducted in Rajasthan.

❖ The primary aim of the exercise is to enhance the joint military capabilities of both countries in counter-terrorism operations, as outlined in Chapter VII of the United Nations Charter, with a focus on desert operations.

❖ Key tactical drills planned include joint planning, cordon and search operations, urban combat, mobile vehicle checkpoints, counter-drone tactics, and room intervention.

❖ Exercise Al Najah V aims to facilitate the exchange of best practices in tactics and procedures, fostering interoperability, goodwill, and strengthened defense cooperation between India and Oman.

Phrynarachne Decipiens

❖ Assam has added a new spider species, Phrynarachne decipiens, commonly known as the bird dung crab spider, to India's arachnid list. The discovery was reported in the academic journal Acta Arachnologica.

❖ This spider imitates bird droppings for camouflage. It was previously known in Malaysia and Indonesia's Java and Sumatra but has now been recorded for the first time in India from Sonapur in Kamrup (Metropolitan) district and Chirang Reserve Forest in Kokrajhar district.

❖ The Phrynarachne genus comprises 35 accepted species, with the bird dung crab spider being one of the notable additions. The last detailed description of this species was made in 1921.

❖ Measuring 13.14 mm in length, the spider is typically found motionless on broad leaves, blending in with its chalky white color and web that resembles bird excreta, making it difficult to spot.

Irula Tribe

❖ The Irula Snake Catchers' Industrial Cooperative Society, based near Chennai is currently facing an uncertain future.

About Irula Tribe:

❖ The Irulas are one of India's oldest indigenous communities and are classified as a particularly vulnerable tribal group (PVTG). They primarily reside in northern Tamil Nadu, with smaller populations in Kerala and Karnataka.

❖ The Irulas speak Irula, a language closely related to Tamil and Kannada. They follow a pantheistic belief system, with their main deity being Kanniamma, a virgin goddess strongly associated with the cobra.

❖ Traditionally skilled in hunting, gathering, and herbal medicine, their renowned expertise in snake handling makes them crucial to India's anti-snake venom (ASV) production, supplying 80% of the venom used in ASV manufacturing.

❖ The cooperative society employs their traditional knowledge to catch snakes, extract venom, and release them unharmed.

One Liners

1.	Mastercard has launched its new Payment Passkey service during the Global Fintech Fest in Mumbai. The service has been launched as a pilot project with leading Indian payment players like Juspay, Razorpay and PayU.
2.	Himanshi Tokas of India won the silver medal in the women's 63kg event at the Asian Cadet and Junior Judo Championships held in Mungyeong, South Korea.
3.	Preeti Pal won the bronze medal in the 200m race in the women's T35 event at the Paris Paralympics 2024. She clocked 30.01 seconds to give India its second Paralympic medal in track. Also, Nishad Kumar won the silver medal in the men's high jump T47 event.
4.	Indian Navy's INS Tabar conducted a maritime partnership exercise with Spanish Naval Ship Atalaya in Malaga, Spain. This exercise is an important step towards enhancing the capabilities of the Indian Navy and strengthening bilateral relations with Spain.
5.	Hockey India has announced that the 2024 Women's Asian Champions Trophy will be held from November 11 to 20 in Rajgir, Bihar.
6.	Air Marshal Tejinder Singh took over as the Vice Chief of the Air Staff of the Indian Air Force. He is a Category 'A' qualified flight instructor with over 4500 hours of flying experience and has received several awards.
7.	The 7th National Nutrition Month was launched at Mahatma Mandir in Gandhinagar, Gujarat. The program aims to emphasize on nutrition awareness and improving overall health. It also includes a plantation drive "Ek Ped Maa Ke Naam".
8.	The Government of India has recommended the imposition of anti-dumping duty on aluminum foil imported from China. The move has been taken keeping in mind the protection of domestic industry.
9.	The Comptroller and Auditor General of India have signed an agreement with the General Court of Audit of Saudi Arabia to promote cooperation and exchange of expertise.
10.	The Government of India has conferred 'Navratna' status to SJVN, NHPC, RailTel and Solar Energy Corporation of India.
11.	The Department of School Education and Literacy has selected 50 teachers for the National Teachers Award 2024.
12.	Indian Navy's P-8I aircraft have been deployed to France to participate in the 22nd edition of Exercise Varuna with the French Navy.
13.	The first Joint Commanders' Conference (JCC) was held in Lucknow on 04-05 September 2024. The theme of the conference is 'Strong and Secure India: Transformation in Armed Forces'.
14.	The purchase of 240 aero-engines for the Sukhoi-30 MKI aircraft of the Indian Air Force has been approved. The purchase will be made from Hindustan Aeronautics Limited (HAL) and the total cost will be Rs 26,000 crore.
15.	President Draupadi Murmu has approved the formation of the 23rd Law Commission of India, which will function from 1 September 2024 to 31 August 2027. The responsibility of the commission will be to review and make recommendations on legal reforms.
16.	Northeast United has won the Durand Cup 2024 for football. They won the title by defeating Mohun Bagan Super Giant 4-3.
17.	World Coconut Day was celebrated on 2 September this year. The theme for 2024 is "Coconut for a Circular Economy, Building Partnerships for Maximum Value".
18.	V Sathish Kumar has been given the additional charge of Chairman of Indian Oil Corporation. He will also continue to play his role as Director (Marketing).

19.	Deepthi Jeevanji won the bronze medal in the women's 400m T20 event at the Paris Paralympics 2024. She completed the race in 55.82 seconds.
20.	The Defence Acquisition Council has approved 10 capital acquisition proposals worth Rs 1.45 lakh crore for the armed forces. These proposals include future-ready combat vehicles and air defence radars.
21.	The West Bengal Assembly passed the 'Aparajita' Bill on 3 September 2024, which provides for death penalty for those convicted of rape.
22.	India and Kenya held the third meeting of the Joint Defence Cooperation Committee, which discussed various aspects of defence cooperation between the two countries.
23.	The World Bank has raised India's growth forecast to 7%. This estimate reflects the strong growth prospects of the Indian economy.
24.	The Ministry of Electronics and Information Technology (MeitY) has launched Vishvasya-Blockchain Technology Stack. This stack will provide geographically distributed infrastructure for various permissioned blockchain-based applications.
25.	Harvinder Singh created history by winning the gold medal in the Men's Archery Individual Recurve Open Final at the Paris Paralympics 2024. He has become the first Indian archer to win a gold medal at the Paralympics or Olympics.
26.	Union Minister of Labor and Employment Dr. Mansukh Mandaviya has approved the Centralized Pension Payment System (CPPS). From January 1, 2025, EPS pensioners will be able to receive pension from any bank, any branch in India. This is expected to benefit more than 78 lakh pensioners.
27.	President Draupadi Murmu inaugurated the Vishwashanti Buddha Vihar in Udgir, Maharashtra. The Vihar is spread over 15 hectares and has facilities including a meditation centre.
28.	Telangana, Tamil Nadu and Rajasthan have recorded the highest growth in real GSDP in FY24. Telangana's economy grew by 9.2%, while Tamil Nadu and Rajasthan grew by 8.2% and 8%, respectively.
29.	India has upgraded bilateral ties to a Comprehensive Strategic Partnership in Singapore. The two countries signed MoUs in the fields of digital technologies, semiconductors and health cooperation.
30.	Lord's, London will host the ICC World Test Championship Final from 11 to 15 June 2025.
31.	A mock drill, "Virus Yudh Abhyas" under the National One Health Mission was conducted in Rajasthan.
32.	The Uttar Pradesh government will build a Vedic-3D Museum at Sampurnanand Sanskrit University. The museum will be dedicated to Indian astrology, astronomy and Vedic literature.
33.	Siddharth Agarwal created history by becoming the oldest Indian to swim across the English Channel.
34.	The Assam government has announced to celebrate August 20 as Suta Diwas, recognizing the contribution of the waevers in the freedom movement.
35.	HDFC Bank has launched a new financial suite of products and services called 'Giga' for gig workers. It includes savings account, business debit card, and special credit card for freelancers.
36.	The Financial Services Institutions Bureau (FSIB) has recommended the appointment of Ram Mohan Rao Amara as the Managing Director of State Bank of India (SBI).
37.	'Jal Sanchay Jan Bhaagidari' initiative was launched in Surat, Gujarat. The initiative is based on community cooperation to promote rainwater harvesting, in which about 24,800 water harvesting structures will be built.
38.	Kapil Parmar won India's first Para Judo medal in Judo at Paris Paralympics 2024. He won the bronze medal in the 60 kg category.
39.	The Ramon Magsaysay Award Foundation has launched a series titled 'Greatness of Spirit', highlighting the courage and selfless service of various individuals and organisations from across Asia.
40.	India and South Africa have signed an agreement to enhance submarine rescue cooperation.

41.	Japanese filmmaker Hayao Miyazaki has been awarded the 2024 Ramon Magsaysay Award. This award is for his animated films made for children.
42.	India and the European Union have decided to enhance cooperation in the field of sustainable water management. The India-EU Water Partnership (IEWP) was established in 2016. Currently it is in the third phase and is collaborating in the management of the Tapi and Ramganga river basins.
43.	The Indian Coast Guard (ICG), Habitats Trust and HCL Foundation have signed an MoU for marine conservation. The objective of this initiative is to protect and improve the marine ecosystem, which is being severely affected due to global climate change and human activities.
44.	Union Home and Cooperation Minister has launched 'White Revolution 2.0'. It includes the formation and strengthening of 2 lakh new multipurpose primary agricultural cooperative societies and dairy and fisheries cooperative societies.
45.	Punjab won the 14th Hockey India Junior Men's National Championship 2024 title. The final match was held at the Olympian Surjit Singh Hockey Stadium, where Punjab defeated Uttar Pradesh 4-3 after giving a tough fight.
46.	The International Cricket Council (ICC) made a historic announcement of equal prize money in the World Cup for men and women. This initiative will start with the Women's T20 World Cup to be held in the United Arab Emirates next month.
47.	The Government of India has approved a budget of 2,104.06 crore for the Chandrayaan-4 mission, which will be India's fourth mission to the Moon. Chandrayaan-4 is a remote mission aimed at collecting lunar rock samples, set to launch in 2027. It will utilize technologies developed during the Chandrayaan-3 mission.
48.	India's shooter Manu Bhaker has been appointed as the brand ambassador for the Ministry of Ports, Shipping, and Waterways. She recently made history by winning two medals at the Paris Olympics, inspiring young athletes across the country.
49.	Jordan's King Abdullah II has appointed Jaafar Hassan as the new Prime Minister of the country. With this appointment, Hassan has taken over the responsibility of forming the government, which comes after the results of the recently held parliamentary elections.
50.	Telangana Chief Minister Revanth Reddy launched the new MSME Policy-2024 to address six major challenges of micro, small and medium enterprises (MSMEs). Under this policy, an investment of Rs 4,000 crore will be made in the next five years, which will strengthen the state's economy.
51.	Amazon India has appointed Sameer Kumar as the new Country Manager for India. Sameer Kumar replaces Manish Tiwary, who resigned from his position in August.
52.	Aishwarya Rai Bachchan won the Best Actress (Critics) award for her stellar performance in "Ponniyin Selvan: Part 2" at the South Indian International Movie Awards (SIIMA) 2024 held in Dubai. The award was presented to her by renowned director Kabir Khan.
53.	Indian javelin star Neeraj Chopra narrowly missed the title at the Diamond League Finals in Brussels on September 14, finishing with a best throw of 87.86 meters, just 1 centimeter short of Grenada's Anderson Peters, who threw 87.87 meters.
54.	The Department for Promotion of Industry and Internal Trade (DPIIT) has launched a new initiative in India, Bharat Startup Knowledge Access Registry (Bhaskar). It is a digital platform aimed at strengthening India's startup ecosystem.
55.	Open Network for Digital Commerce (ONDC) has announced the appointment of RS Sharma as its non-executive chairman. He was a former Indian Administrative Service (IAS) officer and has held several important positions in his career.

MCQs Based on Current Affairs

1. Consider the following statements:
1. Recently, India secured Tier 1 status in the Global Cybersecurity Index (GCI) 2024.
2. The index was released by the International Telecommunication Union (ITU).
3. India is recognized as a role model for cybersecurity practices worldwide.

How many of the statements given above are correct?
A. Only one
B. Only two
C. All three
D. None

2. With reference to PHEMA, consider the following statements:
1. Niti Aayog's expert group has proposed a separate legislation, called the Public Health Emergency Management Act (PHEMA), to handle disease outbreaks and pandemics.
2. This recommendation aims to provide a holistic approach to health management, covering prevention, control, and disaster response.
3. The proposed act would also enable the creation of skilled public health cadres at state levels and districts level.

How many of the statements given above are correct?
A. Only one
B. Only two
C. All three
D. None

3. With reference to State Food Safety Index (SFSI) 2024, consider the following statements:
1. It is released by the Food Safety and Standards Authority of India.
2. Tamil Nadu has emerged as a leader in food safety.

Which of the following statements are correct?
A. 1 only
B. 2 only
C. Both 1 and 2
D. Neither 1 nor 2

4. With reference to the Mineral Security Partnership (MSP) Finance Network, consider the following statements:

1. It is a US-led initiative aiming to strengthen cooperation among members to secure supply chains for critical minerals.
2. India has withdrawn its membership from the MSP Finance Network.
3. The African Union (AU) is the only union which is part of the MSP network.

How many of the statements given above are correct?
A. Only one
B. Only two
C. All three
D. None

5. With reference to state performance in road safety, consider the following statements:
1. Tamil Nadu had the highest road traffic death rate per 1,00,000 people in 2021.
2. West Bengal and Bihar recorded the lowest rates at 5.9 per 1,00,000.
3. Uttar Pradesh, Maharashtra and Madhya Pradesh account for nearly 70% of road traffic fatalities.

How many of the statements given above are correct?
A. Only one
B. Only two
C. All three
D. None

6. In the context of a recently published study on the Swachh Bharat Mission (SBM), consider the following statements:
1. The study indicates that SBM has prevented approximately 60,000 to 70,000 infant deaths in India.
2. SBM was launched in 2014 with the goal of making the country open defecation-free and promoting sanitation.
3. The study analyzed data from 35 states and 640 districts between 2011 and 2020.

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:**

1. India ranks fourth globally in the edible vegetable oil sector, following the USA, China and Brazil.
2. The report indicates that India's domestic production of edible oils meets 60-65% of the country's requirements.
3. The National Mission for Edible Oils – Oil Palm (NMEO-OP) aims to increase crude palm oil production to 11.20 lakh tonnes by 2025-26.

How many of the statements given above are correct?

A. Only one
B. Only two
C. All three
D. None

8. **Regarding the Vadhavan Port project in Maharashtra, consider the following statements:**

1. The Vadhavan Port has an estimated budget of 76,000 crore and aims to become one of the world's top 10 ports.
2. Located near Dahanu town in Palghar district, the port will primarily focus on accommodating small cargo ships.
3. The project incorporates sustainable development practices to minimize environmental impact and enhance India's maritime connectivity.

How many of the statements given above are correct?

A. Only one
B. Only two
C. All three
D. None

9. **Which two entities formed the Special Purpose Vehicle (SPV) to construct the Vadhavan Port?**

A. Maharashtra Maritime Board and Mumbai Port Trust
B. Jawaharlal Nehru Port Authority and Maharashtra Maritime Board
C. Indian Railways and Jawaharlal Nehru Port Authority
D. Maharashtra Maritime Board and Shipping Corporation of India

10. **With reference to the PM E-DRIVE scheme approved by the Cabinet, consider the following statements:**

1. The scheme has a total outlay of 10,900 crore over two years.

2. It replaces the Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME India Phase II).
3. The PM E-DRIVE will only incentivize electric cars.

Which of the following statements are correct?

A. 1 only
B. 2 only
C. 1 and 2 only
D. All three

11. **With reference to the BHASKAR initiative launched by the DPIIT, consider the following statements:**

1. BHASKAR stands for Bharat Startup Knowledge Access Registry.
2. The platform aims to centralize collaboration among startups, investors, mentors and government bodies.
3. BHASKAR is primarily focused on providing funding to startups.

Which of the following statements are correct?

A. 1 only
B. 1 and 2 only
C. 2 and 3 only
D. All three

12. **Consider the following statements:**

1. Karnataka, Andhra Pradesh, Telangana, Kerala and Tamil Nadu contributed over 30% to India's GDP in 2023-24.
2. Sikkim's per capita income increased from 93% of the national average in 1990-91 to 319% in 2023-24.
3. Punjab's per capita income has remained consistently above the national average since the 1960s.

How many of the statements given above are correct?

A. Only one
B. Only two
C. All three
D. None

13. **In the context of recent studies on plastic pollution, consider the following statements:**

1. India generates approximately 9.3 million tons of plastic waste each year, which contributes the most to global plastic emissions.
2. The official waste generation rate in India is reported as 0.12 kilograms per person per day.

3. Nigeria and Indonesia rank as the second and third largest plastic polluters, respectively.

Which of the following statements is/are correct?

A. Only 1
B. Only 1 and 3
C. Only 2 and 3
D. All three

14. Regarding the distribution and conservation status of the elongated tortoise, consider the following statements:

1. The elongated tortoise is assessed as critically endangered by the International Union for Conservation of Nature (IUCN).
2. This species is primarily found in lowlands and foothills of up to 1,000 m above sea level.
3. The tortoise has a wide distribution that includes northern India, Nepal, Bhutan, and various Southeast Asian countries.

How many of the statements given above are correct?

A. Only one
B. Only two
C. All three
D. None

15. Regarding the unveiling of the new flag and insignia of the Supreme Court, consider the following statements:

1. The new flag features the Ashoka Chakra and the Supreme Court building.
2. The flag is primarily green in color.
3. The Supreme Court was inaugurated on 28 January 1950, shortly after India became a Sovereign Democratic Republic.

How many of the statements given above are correct?

A. Only one
B. Only two
C. All three
D. None

16. What was the primary purpose of the Biplab Sarma Committee?

1. To recommend changes to the Indian Constitution
2. To provide recommendations on implementing Clause 6 of the Assam Accord
3. To investigate land disputes in Assam

Which of the statements above are correct?

A. 1 only
B. 2 only
C. 1 and 2 only
D. All three

17. Regarding the peace agreement signed in Tripura, consider the following statements:

1. The peace agreement was signed between the central government, Tripura, and the insurgent groups NLFT and ATTF.
2. The agreement marks the beginning of a new conflict in the state after 35 years of peace.
3. Over 300 armed cadres from the insurgent groups have committed to contributing to Tripura's development after laying down their arms.

How many of the statements given above are correct?

A. Only one
B. Only two
C. All three
D. None

18. Regarding the Subhadra scheme launched in Odisha, consider the following statements:

1. The scheme will provide Rs 10,000 annually to eligible women beneficiaries aged 21 to 60.
2. The funds will be transferred in two instalments, with one instalment on Raksha Bandhan and the other on International Women's Day.
3. Women from economically well-off families and government employees are eligible for the scheme.

How many of the statements given above are correct?

A. Only one
B. Only two
C. All three
D. None

19. Regarding the Supreme Court's hearings on marital rape, consider the following statements:

1. Marital rape is a serious crime that involves forced sexual relations between spouses.
2. Section 375 of the Indian Penal Code (IPC) provides immunity to husbands from prosecution for marital rape.
3. Recently, Section 375 of the Indian Penal Code has been struck down by the Supreme Court.

How many of the statements above are correct?

A. Only one

B. Only two

C. All three

D. None

20. Regarding the Parkinson's disease, consider the following statements:

1. Parkinson's disease is the second most common neurodegenerative disease.

2. It affects 1 million Americans and over 10 million people worldwide.

3. James Parkinson first described the disease in 1817.

How many of the statements given above are correct?

A. Only one

B. Only two

C. All three

D. None

21. With reference to Alzheimer's, consider the following statements:

1. It is the most common type of dementia.

2. Recent research has found a correlation between light pollution at night and the incidence of Alzheimer's disease.

3. It involves the formation of plaques and tangles in the brain.

4. There is no cure available for this disease.

How many of the statements given above are correct?

A. Only one

B. Only two

C. Only three

D. All four

22. Regarding the Drp1 (Dynamin-Related Protein 1), consider the following statements:

1. Drp1 (Dynamin-Related Protein 1) is a protein that plays a crucial role in mitochondrial dynamics

2. Drp1 mediates the division of mitochondria, allowing them to fragment and distribute to different parts of the cell.

3. Drp1 helps eliminate damaged or dysfunctional mitochondria through mitophagy (selective degradation).

4. Drp1 regulates mitochondrial morphology, influencing cellular energy metabolism.

How many of the statements given above are correct?

A. Only one

B. Only two

C. Only three

D. All four

23. Consider the following statements:

1. India's Ministry of Electronics and Information Technology (MeitY) has launched the Vishvasya-Blockchain Technology Stack.

2. It provides a permissioned BaaS setup that is geo-distributed, hosted across three critical data centers in Bhubaneswar, Pune, and Hyderabad

3. This initiative can boost digital infrastructure and transparency.

How many of the statements given above are correct?

A. Only one

B. Only two

C. All three

D. None

24. Consider the following statements:

1. Supreme Court has ruled that viewing, storing, or distributing child sexual exploitative material is an offence under India's POCSO Act and IT Act.

2. The Supreme Court overturned a Madras High Court decision, which stated that making private viewing of child pornography without distribution is not an offence.

3. The court suggested replacing "child pornography" with "child sexually abusive and exploitative material" to reflect the crime's severity.

How many of the statements given above are correct?

A. Only one

B. Only two

C. All three

D. None

25. Union Finance Minister unveiled the NPS Vatsalya scheme announced in the Union Budget, which is a new pension plan for minors. Consider the following statements:

1. The minimum initial contribution to open a Vatsalya account is 1,000.

2. Under this scheme, an annual contribution of 1,000 is required to maintain the account.

3. Upon reaching the age of 18, the account will automatically be converted into a standard National Pension System (NPS) account.

4. Pension will only be received from the account after

turning 60 years old.

5. It will be regulated and administered by the Pension Fund Regulatory and Development Authority (PFRDA).

How many of the statements above are correct?

A. Only one

B. Only two

C. Only three

D. All five

26. Consider the following statements:

1. The Union Cabinet has approved PMJUGA, a centrally sponsored scheme aiming to improve the socio-economic condition of tribal communities, with a total outlay of Rs. 79,156 crore .

2. PMJUGA will cover 549 districts, 2,740 blocks, and around 63,000 villages across 30 States/UTs, benefiting over 5 crore tribal people .

3. The scheme focuses on fulfilling critical gaps in social infrastructure, including health, education, and livelihood, through convergence and outreach

4. PMJUGA comprises 25 interventions to be implemented by 17 ministries under the Development Action Plan for Scheduled Tribes (DAPST) over the next 5 years

How many of the statements given above are correct?

A. Only one

B. Only two

C. Only three

D. All four

27. With reference to the Pradhan Mantri Jan Dhan Yojana (PMJDY), consider the following statements:

1. The scheme provided an unprecedented boost to the government's campaign for financial inclusion.

2. It was launched in 2016.

3. The objective of the PMJDY was to open a Basic Savings Bank Account for unbanked individuals.

4. These accounts are required to maintain any minimum balance in PMJDY accounts.

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 about the Unified Payments Interface:

1. It is a real-time payment system launched in India in 2018.

2. It was launched by the National Payments Corporation of India (NPCI).

3. It is a system that powers multiple bank accounts into a single mobile application.

4. It does not cater "Peer to Peer" collect requests.

Which of the statements given above are correct?

A. 1 and 4 only

B. 2 and 3 only

C. 1, 2 and 3 only

D. 3 and 4 only

29. Regarding the Bio-RIDE scheme approved by the Union Cabinet, consider the following statements:

1. The Bio-RIDE (Bio-Research Innovation Development and Entrepreneurship) scheme is an initiative launched by the Uttar Pradesh government.

2. The main components of this scheme are Biotechnology Research and Development, Industrial and Entrepreneurship Development, and Biomanufacturing and Biofoundry.

3. The proposed budget for the Bio-RIDE scheme is 10,000 crore during the 15th Finance Commission period.

4. The aim of the scheme is to promote bio-entrepreneurship and enhance collaboration between academic institutions and industry.

How many of the statements above are correct?

A. Only one

B. Only two

C. All three

D. None

30. Regarding Matsya 6000, consider the following statements:

1. Matsya 6000 is India's first manned scientific submarine, developed jointly by the National Institute of Ocean Technology and the Ministry of Earth Sciences.

2. This submarine can dive to a depth of 6,000 meters and can carry a crew of three.

3. The project is expected to be completed by 2024.

How many of the statements above are correct?

A. Only one

B. Only two

C. All three

D. None

31. Consider the following statements with respect to the removal of the judges of the Supreme Court.

1. A judge of the Supreme Court can be removed from his office only by an order of the President.

2. Proven misbehaviour or incapacity are the only two grounds for the removal of a judge of the constitutional court.

3. The details of the process of impeachment of the Judges of the Supreme Court of India are given in the Judges (Inquiry) Act, 1968.

4. Impeachment proceedings against the Supreme Court Judges have been triggered only five times in history.

How many of the above statements are correct?

A. Only one

B. Only two

C. Only three

D. All four

32. With reference to the 'Pagers', consider the following statements:

1. These were the first generation of hand-held mobile communication devices.

2. These are receive-only devices to which small messages, not longer than a sentence, could be sent.

3. Messages to pagers are carried over infrared waves.

4. Pager devices can be traced or tracked.

How many of the statements given above are correct?

A. Only one

B. Only two

C. Only three

D. All four

33. With reference to the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), consider the following statements:

1. It is the world's largest public health insurance scheme.

2. It provides free cover upto Rs 5 lakh annually to all members of eligible families.

3. This scheme covers citizens above the age of 60 years.

How many of the statements given above are correct?

A. Only one

B. Only two

C. All three

D. None

34. The term "Commons" was recently in the news. Consider the following statements:

1. It is a term used to refer to resources that are owned by the government.

2. For the first time, India hosted a dialogue on the conservation, restoration and governance of common resources.

3. Local Ponds are not a part of the Commons.

Which of the statements given above is/are correct?

A. 1 and 2 only

B. 2 only

C. 2 and 3 only

D. 1 only

35. When was the Biplab Sarma Committee formed?

A. January 2019

B. July 2019

C. February 2020

D. August 2020

ANSWER							
1.	(C)	11.	(B)	21.	(D)	31.	(D)
2.	(B)	12.	(C)	22.	(D)	32.	(B)
3.	(A)	13.	(D)	23.	(C)	33.	(B)
4.	(A)	14.	(C)	24.	(C)	34.	(A)
5.	(B)	15.	(B)	25.	(D)	35.	(B)
6.	(C)	16.	(A)	26.	(D)		
7.	(B)	17.	(B)	27.	(C)		
8.	(B)	18.	(B)	28.	(B)		
9.	(B)	19.	(B)	29.	(B)		
10.	(C)	20.	(C)	30.	(B)		

1. Consider the following statements regarding Quantum Technology.
   1. Quantum computers compute in qubits.
   2. It has the potential to rapidly accelerate the development of artificial intelligence.
   3. Earthquakes, Tsunamis, drought and floods may become more predictable with quantum applications.
   How many of the above statements is/are correct?
   (a) Only one
   (b) Only two
   (c) All three
   (d) None

2. Recently NASA launched its SWOT satellite, whose objective is to:
   (a) Study the unidentified aerial phenomena.
   (b) Capture spectacular images of the planets in the solar system
   (c) Explore how oceans absorb atmospheric heat and carbon dioxide in a natural process that moderates global temperatures and climate change.
   (d) Find out why planet Earth supports life, whereas other planets like Mars and Venus do not.

3. Consider the following :
   1. Different species of plants.
   2. Microorganisms and higher organisms.
   3. Animals and plants.
   In which of the above, Genes are allowed to be transfered using recombinant DNA technology (Genetic Engineering).
   (a) 1 only
   (b) 2 and 3
   (c) 1 and 3
   (d) 1, 2 and 3

4. Consider the following statement regarding the applications of gene-editing technology:
   1. It can be used to protect endangered species or bring to life extinct species.
   2. It can boost disease resistance in humans & increase life span.
   3. It can slow down the spread of diseases by eliminating its means of transmission.
   How many of the above statements are correct?
   (a) Only one
   (b) Only two
   (c) All three
   (d) None

5. Consider the following statements regarding Gamma-ray Bursts (GRBs) that are bright explosions and release gamma-ray light.
   1. GRB can happen when two neutron stars merge.
   2. They are the most energetic form of light, multiple times brighter than the sun.
   3. Gamma-ray Bursts (GRBs) can be studied to identify a black hole formation.
   Which of the above statement sis/are correct?
   (a) 1 and 2
   (b) 1and 3
   (c) 2 and 3
   (d) 1, 2 and 3

6. Consider the following statements:
   1. Indian Computer Emergency Response Team (Cert-In) functions under the Ministry of Home Affairs.
   2. A virtual private network (VPN) creates several proxy identities for user's data and delivers it safely without disturbing the content of the data.
   3. Internet protocol address (IP address) helps law enforcement agencies track down individual users and their accurate location.
   How many of the above statements is/are correct?
   (a) Only one
   (b) Only two
   (c) All three
   (d) None

7. Consider the following statements regarding Space debris.
   1. Space debris include debris from defunct

spacecrafts and satellites, satellite explosions and collisions.

2. Under the Convention on International Liability for Damage Caused by Space Objects, countries cannot claim compensation from other countries for damages incurred from space debris.

3. Meteoroids are classified as natural space debris.

Which of the above statements is/are correct?

(a) 2 and 3

(b) 1 and 2

(c) 1 and 3

(d) 1, 2 and 3

8. Consider the following statements:

1. Antibiotics work by binding to a specific target protein on a bacteria, then entering to kill it from the inside.

2. Antibiotic resistance occurs when bacteria evolve to evade antibiotics.

3. Overuse and misuse of antibiotics are the biggest drivers of antibiotic resistance.

How many of the above statements is/are correct?

(a) Only one

(b) Only two

(c) All three

(d) None

9. Consider the following :

1. Cloud computing

2. Augmented reality

3. Autonomous robots

4. Additive manufacturing

5. Internet of things (IoT)

Fourth Industrial Revolution (4IR) is a collection of which of the above technologies?

(a) 1, 2, 3 and 4

(b) 1, 2, 4 and 5

(c) 1, 2, 4 and 5

(d) 1, 2, 3, 4 and 5

10. Consider the following statements regarding Gait Analysis.

1. Gait analysis is a technique in medical care which is used to evaluate and diagnose

conditions that affect a person's walking and posture.

2. Gait analysis techniques can be used by forensic sciences experts to identify suspects in criminal cases.

Which of the above statements is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

11. Consider the following statements.

1. Web 1.0 was the first generation of the global digital communications network.

2. Web 1.0 is often referred to as "read and write" internet, where users were able to communicate with servers and other users leading to the creation of the social web.

3. Web 3.0 is used to refer to the next generation of Internet – a "read-write-execute" web with decentralization.

How many of the above statements is/are correct?

(a) Only one

(b) Only two

(c) All three

(d) None

12. Consider the following statements regarding Rare Earth Minerals.

1. The magnets made from rare earth minerals are more powerful than conventional ones.

2. They are called 'rare earth' because earlier it was difficult to extract them from their oxides forms technologically.

3. Not all rare earth elements (REE) are available in Indian deposits in extractable quantities.

How many of the above statements is/are correct?

(a) Only one

(b) Only two

(c) All three

(d) None

13. Neglected Tropical Diseases (NTD) are caused by pathogens that include:

1. Viruses

2. Bacteria

3. Parasites
4. Fungi

Which of the above are correct ?

(a) 1 and 2
(b) 1,2 and 3
(c) 1, 2 and 4
(d) 1, 2, 3 and 4

14. Consider the following statements regarding Muons:

1. Muons are subatomic particles raining from space.
2. They are created when the particles in Earth's atmosphere collide with cosmic rays.
3. They can travel through hundreds of metres of rock or other matter before getting decayed into electrons.
4. They are highly unstable and exist for only few microseconds.

How many of the above statements is/are correct?

(a) Only one
(b) Only two
(c) Only three
(d) All four

15. Consider the following statements regarding Lab-grown diamonds (LGDs).

1. LGDs have basic properties similar to natural diamonds, including their optical dispersion.
2. LGDs are most often used for industrial purposes because of their hardness and extra strength.
3. Like natural diamonds, LGDs do not require any polishing and cutting to provide diamonds their characteristic lustre.

How many of the above statements is/are **incorrect?**

(a) Only one
(b) Only two
(c) All three
(d) None

16. Consider the following statements about the Economic Survey:

1. It is prepared by the chief economic adviser (CEA).
2. The first Economic Survey was presented in

1950-51 and until 1964, it was presented along with the Budget.
3. Once prepared, the Survey is approved by the Finance Minister and the comments or policy solutions contained in the Survey are not binding on the government.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

17. Consider the following statements about National Statistical Commission:

1. It is a statutory body and was the outcome of Rangarajan Commission Report.
2. The chief economic adviser (CEA) is the secretary of NSC.

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

18. Consider the following statements about e-Gram SWARAJ Portal:

1. It is a Simplified Work Based Accounting Application for Panchayati Raj.
2. It is one of the applications developed as part of Panchayat Enterprise Suite (PES) under the Digital India programme.

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

19. What is a Qualified Institutional Investor (QII)?

(a) An individual investor with a high net worth
(b) A financial institution that manages funds for large investors
(c) A private equity firm that invests in startups
(d) A hedge fund that uses high-risk strategies to generate returns

20. Consider the following statements:

Statement I: Otoliths are calcium carbonate structures located in the heads of bony fish

Statement II: Otoliths have been used for making ornaments for the first time in India.

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

21. In the context of any country, which one of the following would be considered as part of its social capital?

(a) The proportion of literates in the population

(b) The stock of its buildings, other infrastructure and machines

(c) The size of population in the working age group

(d) The level of mutual trust and harmony in the society

22. Which of the following is not included in the assets of a commercial bank in India?

(a) Advances

(b) Deposits

(c) Investments

(d) Money at call and short notice

23. Consider the following statements regarding the State Election Commission:

1. The State Election Commissioner is appointed by the President.

2. The State Election Commissioner has the status of a Judge of a High Court.

3. The State Election Commissioners work independently of the Election Commission of India and each has its own sphere of operation.

Which of the above statements is/are correct?

(a) 2 only

(b) 1 and 2 only

(c) 2 and 3 only

(d) 1, 2 and 3

24. What is the Angel Tax, and how does it affect Indian startups?

(a) Angel Tax is a tax imposed on angel investors who provide funding to startups in India. It has a negative impact on the startup ecosystem as it discourages investment in the sector.

(b) Angel Tax is a tax imposed on startups who receive funding from angel investors in India. It has a positive impact on the startup ecosystem as it ensures that only genuine startups receive funding.

(c) Angel Tax is a tax imposed on startups who receive funding from venture capital firms in India. It has a neutral impact on the startup ecosystem as it does not discriminate against startups based on the source of funding.

(d) Angel Tax is a tax imposed on individuals who invest in the stock market in India. It has no impact on the startup ecosystem.

25. Consider the following statements:

1. In India, all judges have the same judicial powers.

2. A puisne judge of a High Court is a judge other than a Chief Justice.

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

26. Consider the following statements about International Seabed Authority:

1. It is an intergovernmental body of 167 member states and the European Union.

2. It comes under the United Nations Convention on the Law of the Sea (UNCLOS) for monitoring all activities related to mineral resources in the deep sea.

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

27. Consider the following statements.
    1. The Supreme Court was created under the Constitution, and is a relatively new court than some of the High Courts in India.
    2. The Supreme Court is superior to the High Court and a High Court judge is subordinate to a Supreme Court judge.
    3. The High Courts can provide remedies in all cases arising under the constitutional law, the civil law and the criminal law.

    How many of the above statements is/are correct?
    (a) Only one
    (b) Only two
    (c) All three
    (d) None

28. What is the main difference between communism and socialism?
    (a) Communism aims for a classless society while socialism aims for a fairer distribution of wealth.
    (b) Socialism advocates for government control of production while communism advocates for worker control.
    (c) Communism is based on the idea of a planned economy while socialism allows for a mixed economy.
    (d) none of the above

29. What do you mean by Macrosomia?
    (a) It is defined as a condition in which a baby is born with an excessive body weight.
    (b) It is defined as a condition in which a baby is born with a low body weight.
    (c) It is defined as a condition in which a baby is born with a birth defect.
    (d) None

30. If a commodity is provided free to the public by the Government, then:
    (a) The opportunity cost is zero.
    (b) The opportunity cost is ignored.
    (c) The opportunity cost is transferred from the consumers of the product to the tax-paying public.
    (d) The opportunity cost is transferred from the consumers of the product to the Government.

31. Consider the following statements:
    1. Paris Club is an informal group of creditor nations whose objective is to find workable solutions to payment problems faced by debtor nations.
    2. China and India, both are non-Paris Club 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

32. Consider the following statements regarding Wetlands.
    1. In India, Wetlands are regulated under the Environment (Protection) Rules, 1986.
    2. Wetlands International is a sub-branch of UN Environment that works to sustain and restore wetlands and their resources for people and biodiversity.

    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

33. Consider the following statements:
    1. Wildlife Protection Act (WPA) empowers the Central government to declare any wild animal, including those in Schedule I & II of the WPA, to be vermin for specified area and period.
    2. Wildlife Protection Act authorizes Chief Wildlife Warden to permit hunting of certain wild animals only if they cannot be captured or translocated.

    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. Consider the following statements regarding the Review petition.
1. The Constitution of India provides the Supreme Court the power to review any of its judgments or orders.
2. Only parties to a case can seek a review of the judgment on it.

Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

35. Consider the following statements about MISHTI Scheme:
1. It is a new programme by the Global Mangrove Alliance that will facilitate mangrove plantations along India's coastline and on salt pan lands.
2. The programme will operate through "convergence between MGNREGS, CAMPA Fund and other sources."

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 about Particularly Vulnerable Tribal Groups (PVTGs) in India:
1. PVTGs reside in 18 States and one Union Territory.
2. A stagnant or declining population is one of the criteria for determining PVTG status.
3. There are 95 PVTGs officially notified in the country so far.
4. Irular and Konda Reddi tribes are included in the list of PVTGs.

Which of the statements given above are correct?
(a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4

37. In the context of which of the following do some scientists suggest the use of Cirrus Cloud Thinning Technique and the injection of Sulphate Aerosol into stratosphere?
(a) Creating the artificial rains in some regions
(b) Reducing the frequency and intensity of tropical cyclones
(c) Reducing the adverse effects of solar wind on the Earth
(d) Reducing the global warming

38. Consider the following statements about earthquakes:
1. All natural earthquakes take place in the lithosphere.
2. The denser the material, the lower is the velocity of the earthquake waves.
3. The surface waves are more destructive.

Which of the above statements is/are correct?
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

39. Consider the following statements about the National Commission for Scheduled Tribes (NCST).
1. It is a non-constitutional body set up by an act of parliament.
2. While investigating any matter related to Scheduled Tribes, the commission shall have all the powers of a civil court.

Which of the above statements is/are **incorrect**?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

40. What is an inclusive Circular Economy?
(a) A model of production and consumption in which resources are kept in use for as long as possible, minimizing waste and pollution.
(b) A system in which waste and resources are repurposed, reducing the need for new production, but not considering social equity.

(c) A model of production and consumption in which waste and resources are repurposed, reducing the need for new production, while considering social equity and environmental sustainability.

(d) A system in which waste and resources are kept in use for as long as possible, maximizing waste and pollution.

41. Mission Sahbhagita is an initiative of:
(a) Ministry of Social Justice and Empowerment
(b) Ministry of Rural Development
(c) Ministry of Education
(d) Ministry of Environment, Forest and Climate Change

42. Consider the following statements about Global Climate Resilience Fund (GCRF):
1. It has been designated as an operating entity of the financial mechanism of the United Nations Framework Convention on Climate Change.
2. It is based in Incheon, South Korea.

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

43. Consider the following statements:
1. In the revenue administration of Delhi Sultanate, the in-charge of revenue collection was known as 'Amil'.
2. The Iqta system of Sultans of Delhi was an ancient indigenous institution.
3. The office of 'Mir Bakshi' came into existence during the reign of Khalji Sultans of Delhi.

Which of the statements given above is/are correct?
(a) 1 only
(b) 1 and 2 only
(c) 3 only
(d) 1, 2 and 3

44. Consider the following statements about the Treaty of Alinagar:
1. It was signed between the British East India

Company (Robert Clive) and the Nawab of Bengal (Siraj ud-Daulah).
2. The treaty restored Calcutta to the East India Company with its privileges and permitted the fortification of the town and the coining of money.

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.
1. He founded the Indian Home Rule League of America in New York City.
2. He was elected President of the Indian National Congress during which Non-cooperation Movement was launched.
3. He established Dayanand Anglo-Vedic School in Lahore.

The above statements refer to:
(a) Dayananda Saraswati
(b) Gopal Krishna Gokhale
(c) Bal Gangadhar Tilak
(d) Lala Lajpat Rai

46. Consider the following statements with reference to BHASHINI Mission:
1. BHASHINI is India's artificial intelligence chatbot, similar to OpenAI's ChatGPT.
2. Under Bhashini Mission, a team at DRDO is currently building a WhatsApp-based chatbot.

Which of the above statements is/are **incorrect**?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

47. Consider the following :
1. A classless and casteless society
2. Vedic nation of Chaturvana system
3. Infallibility of Vedas and Puranas

Which of the above ideas was/were supported by Dayananda Saraswati ?
(a) 1 and 2 only
(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

48. With reference to changed broadband definition in India, which one of the following correctly describes the term 'White Spots'?

(a) Places which show simply being "connected" but have very slow and intermittent connectivity

(b) Places without cellular connectivity at all

(c) Places which have high-speed Internet access

(d) None

49. A Windfall Tax is a:

(a) Tax levied on short-term currency transactions to discourage volatility and speculation.

(b) Higher tax rate on sudden big profits levied on a particular company or industry.

(c) Tax levied at the time of purchase and sale of securities listed on stock exchanges

(d) None

50. What is the 'Greenhouse Gas Protocol'?

(a) It is an international accounting tool for government and business leaders to understand, quantify and manage greenhouse gas emissions.

(b) It is an initiative of the United Nations to offer financial incentives to developing countries to reduce greenhouse gas emissions and to adopt eco-friendly technologies.

(c) It is an inter-governmental agreement ratified by all the member countries of the United Nations to reduce greenhouse gas emissions to specified levels by the year 2022.

(d) It is one of the multilateral REDD+ initiatives hosted by the World Bank

ANSWER

1	c	14	d	27	b	40	c
2	c	15	a	28	a	41	d
3	d	16	b	29	a	42	b
4	c	17	a	30	c	43	a
5	d	18	a	31	a	44	c
6	b	19	b	32	d	45	d
7	c	20	b	33	b	46	d
8	c	21	d	34	a	47	a
9	d	22	b	35	c	48	b
10	c	23	c	36	c	49	b
11	b	24	a	37	d	50	a
12	c	25	c	38	c		
13	d	26	c	39	a		