Dear Readers,

As we usher in the vibrant month of May, 'Amigos IAS' magazine is excited to present an edition that dives deep into pivotal global shifts and their ramifications for India. In this issue, we explore a spectrum of topics at the heart of international relations and technological evolution.

A focal point of this edition is the ongoing tension between Israel and Iran, marking significant escalations and de-escalations in West Asia. This conflict has profound implications for global security and India's foreign policy, especially in the context of energy security and strategic alliances. Our coverage provides a comprehensive analysis of the latest developments and the potential pathways to peace.

The world of technology is witnessing a major leap with advancements in semiconductor fabrication. India's push to become a hub for semiconductor production is not just a stride toward technological self-reliance but also a significant step toward integrating into the global supply chain. We dissect the challenges and opportunities for India, especially in the wake of global semiconductor shortages.

This edition also discusses the culmination of Basel III regulations, known as the 'Basel III Endgame'. With these enhanced banking regulatory frameworks fully implemented, we examine the impact on the global banking sector and India's financial stability. Understanding these regulations is crucial for economic resilience and informed policymaking.

Each article in this issue is designed to enrich your understanding and equip you for the challenges of competitive examinations. We believe that the insights provided will help you navigate through the complexities of these topics, making you a more informed and effective participant in your pursuit of excellence.

we also want to remind you of the vital role of elections in shaping the democratic fabric of our nation. Remember, every vote counts in the mosaic of democracy, as it not only determines who governs

but how governance shapes our future. As Lyndon B. Johnson aptly put it, "The vote is the most powerful instrument ever devised by man for breaking down injustice and destroying the terrible walls which imprison men because they are different from other men."

Warm regards,
AMIGOS IAS Editorial Team
Jai Hind!

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ESCALATION AND DE-ESCALATION IN WEST ASIA

Introduction :

- Tensions are rising in West Asia as Israel expands its conflict with Gaza to include Iran, sparking a series of retaliatory attacks. The recent escalation began when Israel targeted the Iranian Embassy in Damascus, Syria, resulting in casualties including two Iranian generals. This action, violating the Vienna Convention which protects embassies as sovereign territory, prompted retaliation from Iran.

Despite international calls, including from countries like India, for de-escalation, Israel continues to assert its strategic dominance. However, the lack of condemnation from countries advocating for a rules based international order highlights the challenges in upholding diplomatic norms amidst regional conflicts.

- The animosity between Iran and Israel is deep rooted, with ideological differences and regional power struggles fueling decades of hostility. This long standing enmity has recently manifested in a series of direct confrontations that have raised alarms across the globe.

The recent escalation between Iran and Israel has been marked by a series of incidents that have heightened tensions in the region :

- **April 1, 2024:** A suspected Israeli air strike on Iran's embassy compound in Damascus led to a significant increase in hostilities.

- **April 14, 2024:** Iran responded with a barrage of drones and missiles aimed at Israel, which raised concerns about a potential wider regional conflict.

- **April 19, 2024:** Iranian media reported explosions in Isfahan city, with Iran activating its air defense systems to bring down three aerial objects. This incident was amid increasing tensions that have escalated since Israel's war on Gaza began.

- **Damascus Strike:** The conflict intensified when Israel targeted the Iranian consulate in Damascus, leading to the death of a senior Iranian military figure.

- **Iran's Retaliation:** Iran responded with an unprecedented aerial assault, launching over 300 drones and missiles towards Israeli territory.

- The conflict between Israel and Iran has escalated significantly in recent weeks, with both sides engaging in direct military actions that have raised concerns about a broader regional war.

Key Events that led to Iran's Attack on Israel

- In 2018, Israel praised the US for pulling out of Iran's nuclear deal with world powers, a move that had been actively advocated for by Israel for years. The decision by Trump was described as "historic" by Israel.

- In 2020, Israel expressed approval of the assassination of General Qassem Soleimani, the commander of the overseas arm of Iran's Revolutionary Guards, in a US drone strike in Baghdad. In response, Iran launched missile attacks on Iraqi bases housing American troops.

- In October 2023, Hamas, an Iran backed terrorist group, initiated a missile attack targeting Israel. In retaliation, Israel carried out airstrikes on Gaza.

- In November 2023, Israel initiated raids and attacks on medical facilities, citing reports that Hamas was operating from these hospital buildings and conducting warfare from them.

- In November 2023, the Iran backed Houthi group, based in Yemen, landed their helicopter on the Galaxy Leader cargo vessel as it passed through the Red Sea, sparking the 'Red Sea Crisis' and resulting in supply chain disruptions.

- In December 2023, Israel's ground offensives in the Gaza Strip escalated rapidly, leading to a rise in the death toll and an increase in the number of refugees. India called for an 'early and durable resolution' between the warring nations.

- A suspected Israeli airstrike on the Iranian embassy compound in Damascus in November 2023 resulted in the deaths of seven officers of the Islamic Revolutionary Guard, including two senior commanders. Israel neither confirmed nor denied responsibility.

- In April 2024, Iran launched a missile attack on Israel in alleged retaliation for a suspected Israeli strike on Iran's consulate in Syria. This marked the first instance of Iran directly targeting Israel from its domestic territory.

- The Israel Defense Forces (IDF) claimed that the Israeli air defense system intercepted 99% of the incoming projectiles from Iran. The United States, the nited Kingdom, France, and other Middle Eastern allies also assisted in defending Israel.

Impact of Iran-Israel War on the World :

Potential Israeli Response May Lead to Regional Escalation:

- The prevailing belief in Israel that a nuclear armed Iran poses an existential threat may result in potential retaliation, a factor that cannot be overlooked in decision making.

- If diplomatic efforts fail to ease tensions or achieve a peaceful resolution, the likelihood of resorting to military action may increase, thereby raising the prospects of regional escalation.

Disruption of Oil Supplies:

- Iran, as the third largest crude oil producer within OPEC, could significantly disrupt crude oil prices if tensions with Israel continue to intensify.

- Such a disruption would adversely impact the sentiment in the Indian share market, given that India is the third largest consumer and importer of crude oil, sourcing over 80% of its needs from imports.

Rise in Inflation and Capital Outflow:

- Mounting geopolitical tensions could prompt an increase in commodity prices due to supply disruptions, leading to higher global inflation, particularly impacting crude oil and other commodities like copper, zinc, aluminium, and nickel.

- Consequently, investors are likely to adopt a cautious approach, potentially shifting capital from riskier assets such as Indian stocks to safer alternatives like gold (bullion), while bond prices may decline and the cost of credit for companies may rise.

Trade and Travel Disruptions:

- Heightened tensions between Israel and Iran could impede both trade and travel, potentially causing disruptions in the aviation and shipping sectors.

- Previous instances of airspace closures by countries in the region, including Iran, Jordan, Iraq, Lebanon, and Israel, along with noted concerns over disruptions to India's exports to Europe, underscore the potential impact of renewed Iran-Israel tensions.

Global Response

- The global response to the recent Iran-Israel conflict has been marked by a chorus of calls for restraint and deescalation from various global powers. Here are more detailed points on the reactions and stands of different countries and organizations:

United Nations:

- UN Security Council: An emergency meeting was convened to address the crisis, with UN chief António Guterres warning that the Middle East was "on the brink" and urging for deescalation[12].
- Call for Peace: Guterres emphasized the danger of a full scale conflict and the need to defuse tensions[3].

United States:

- **President Biden's Warning:** President Joe Biden warned Israel that the US would not participate in a counteroffensive against Iran, signaling a desire to avoid further escalation[3].
- **Defensive Support:** The US reiterated its support for Israel's defense while emphasizing the goal of de-escalating regional tensions[3].

European Union:

- **G7 Statement:** Leaders of the G7 nations unequivocally condemned Iran's strikes and stood in solidarity with Israel, calling for restraint from all sides[4].
- **Economic Concerns:** The conflict's impact on financial markets was noted, with gold prices rising and oil prices fluctuating due to the geopolitical tensions[1].

Middle Eastern Countries:

- **Oman's Concern:** Oman expressed profound concern over the escalation and emphasized adherence to international laws[1].
- **Saudi Arabia and Jordan:** High level discussions took place with US officials, reflecting the region's vested interest in maintaining stability[3].

Asian Countries:

- **Philippines' Statement:** The Philippines Department of Foreign Affairs expressed serious concern over the increasing tensions and urged for a peaceful resolution[1].
- **Malaysia and Indonesia:** Both countries, where Islam is the predominant religion, called for restraint and reiterated support for Palestinian rights[1].

Other Global Powers:

- **UK's Position:** The UK urged Israel to act with caution and not escalate the conflict, implying it would defend Israel if it came under further assault but would not join an attack on Iran[3].

- **Hungary's Condemnation:** Hungary's Prime Minister Viktor Orban condemned Iran's strikes on Israel, warning of a global threat

Impact of Iran-Israel Conflict on India

Economic Interests:

- India's significant economic ties in the Middle East, including trade, investment, and energy imports, are at risk due to conflict escalation.
- Potential disruptions in trade routes and increased oil prices could adversely affect India's economy.

Security of Indian Diaspora:

- The large Indian diaspora in the Gulf region faces risks to safety and security.
- Concerns about piracy, hostage taking, and general instability heighten the need for protective measures.

Instability in Global South Governance:

- India recognizes the importance of Middle East stability for global south governance.
- Instability in the region has broader implications for international security and cooperation.

Diplomatic Solutions:

- India advocates for diplomatic solutions to Middle East conflicts and supports peace initiatives.
- India's historical and cultural ties position it as a potential mediator for dialogue.

India's Response

- India's position on the recent Iran-Israel conflict is multifaceted, reflecting its complex relationships and strategic interests in the region. Here are more points detailing India's implications, concerns, and stance:

Strategic Implications for India:

Energy and Economic Interests:

- **Oil Imports:** Iran is a key oil supplier for India. Escalation in the region could disrupt oil shipments, impacting India's energy security and economy.
- **Trade Routes:** The conflict could affect trade routes in the region, particularly the Strait of Hormuz, through which a substantial portion of India's oil imports pass.

Defence and Security:

- **Military Hardware:** India sources critical military hardware and technology from Israel. A conflict could disrupt these supplies and affect India's defence preparedness.
- **Counter Terrorism:** India is concerned about the potential rise in terrorism that could be fueled by the conflict, affecting regional security.

Diplomatic Relations:

- **Balancing Act:** India has managed to maintain a delicate balance in its relations with both Iran and Israel. Escalation could force India to reassess its diplomatic stance.
- **International Mediation:** India might be called upon to play a role in international mediation efforts, given its good relations with both countries.

Regional Influence:

- **South Asia Stability:** The conflict could have ripple effects in South Asia, potentially affecting India's influence in its immediate neighborhood.
- **I2U2 and IMEC:** India's involvement in regional groupings like I2U2 (India, Israel, UAE, and USA) and IMEC (India, Middle East, and China) could be impacted by the conflict.

Indian Diaspora:

- **Safety of Nationals:** The safety of the Indian diaspora in the Gulf region is a concern, and India may need to plan for potential evacuations in case of conflict escalation.
- **Remittances:** The Gulf region is a significant source of remittances to India. Any disruption due to conflict could affect the flow of remittances

India's Concerns:

- **Regional Stability:** India has consistently advocated for stability in the Middle East, which is vital for its economic and strategic interests.
- **Nuclear Proliferation:** India is concerned about the potential for nuclear proliferation in the region, which would have serious security implications.
- **Terrorism:** India is wary of the conflict exacerbating terrorism, which could spill over into its own territory or affect its interests abroad.
- **Impact on Neighboring Countries:** India is wary of the conflict spilling over into neighboring countries, which could lead to a broader regional crisis.
- **Evacuation Preparedness:** India has to be prepared for potential evacuations of its citizens from the region in case the situation deteriorates.
- **Investment Risks:** The conflict poses risks to Indian investments in the region, particularly in sectors like energy, infrastructure, and trade

India's Stand:

- **Maintaining a Balanced Stand:** India has significant stakes in bilateral relations with both Israel and Iran, emphasizing restraint from Israel to prevent wider regional conflict. India's current position is perceived as balanced, promoting regional peace, unlike earlier perceptions of favoritism towards Israel. India maintains a balanced approach, having good relations with both Iran and Israel. India has already urged for "immediate de-escalation," emphasizing the importance of "stepping back from violence," and advocating for a "return to the path of diplomacy."
- **Non-Ideological Engagement:** India's involvement in the Middle East extends beyond ideological alliances, reflecting its expanding interests in the region. Economic and political partnerships with Gulf Arab states, notably Saudi Arabia and the United Arab Emirates, signify India's diversified interests beyond oil imports and labour exports.
- **Complex Regional Politics:** Middle East conflicts involve deep interstate and intrastate complexities, necessitating India to balance engagements with various regional actors like Egypt, Iran, Israel, Qatar, Turkey, Saudi Arabia, and the United Arab Emirates. India's call for de-escalation acknowledges the intricate nature of regional politics.
- **International Cooperation:** India supports international efforts to mediate peace and ensure the security of the region.

Way Forward

- India's strategic ties with both Iran and Israel pose a challenge in maintaining neutrality amid escalating conflict.
- However, advocating for "immediate de-escalation," "stepping back from violence," and "returning to diplomacy" aligns with India's national interest. This stance underscores the importance of peace and stability in the region for India's strategic and economic interests.
- India must aim to maintain a balanced approach in its engagements with key regional actors in the Middle East, including Egypt, Iran, Israel, Qatar, Turkey, Saudi Arabia, and the United Arab Emirates.

- These actors often have differing orientations and interests in the region's conflicts, highlighting the importance of India's diplomatic finesse in navigating these complex dynamics.
- India should pursue pragmatic, non-ideological engagement in the Middle East region to complement its expanding interests.

Potential Resolutions to De-escalate the Iran - Israel Conflict

Establishing a Sustainable Ceasefire and Pursuing a Two State Solution:

- Israel should promptly agree to a sustainable ceasefire in Gaza, allow international humanitarian aid into Gaza, and uphold the UN resolutions to achieve a resolution to the 70-year-old crisis by implementing a two state solution.
- The two state solution represents the most viable path towards long term security, peace, and stability in the region. While it is a challenging objective, both sides are familiar with the obstacles and possibilities it presents.

Encouraging Dialogue and Diplomacy:

- An international endeavor should intervene to mediate a sustainable ceasefire between Israel and Iran. Encouraging both nations to engage in direct discussions facilitated by international mediators could foster trust and identify common ground.
- Iran and Israel could participate in direct dialogues facilitated by a neutral third party, such as the European Union or the United Nations.

Addressing Nuclear Proliferation Concerns:

- Iran could adhere to the terms of the Joint Comprehensive Plan of Action (JCPOA) and permit international inspections of its nuclear facilities to ensure compliance with the agreement.
- In return, Israel could acknowledge Iran's right to peaceful nuclear energy and commit to refraining from military strikes against Iranian nuclear facilities.

Promoting Regional Cooperation:

- Encouraging cooperation between Iran and Israel within the framework of regional organizations, such as the Arab League or the Gulf Cooperation Council, could address shared security concerns and promote stability in the Middle East.
- Developing a comprehensive regional security architecture that addresses the interests of all stakeholders in the Middle East could contribute to stability and decrease the likelihood of conflict between Iran and Israel.

Planning for the Long Term Future of the Middle East:

- Regional powers could collaborate to establish a comprehensive security architecture for the Middle East, including confidence building measures, arms control agreements, and mechanisms for resolving conflicts peacefully.
- Addressing underlying issues, such as historical grievances, territorial disputes, and religious extremism, can help create an environment conducive to peace and reconciliation.

Normalization of Relations:

- Iran and Israel could take steps to normalize diplomatic relations, such as exchanging ambassadors, reopening embassies, and encouraging people to people exchanges, akin to the peace agreements between Israel and some Arab states like the United Arab Emirates and Bahrain.

Background

Historical Rivalry:

- Ideological Opposition: Since the 1979 Islamic Revolution, Iran has positioned itself in direct opposition to Israel's existence, with its leaders often expressing a desire to see the "Zionist entity" eradicated.
- Shift from Allies to Enemies: The two countries were allies before the revolution, but the new regime in Iran quickly turned against Israel, making opposition to it a central part of its ideology.

Pre 1979 Iran-Israel Ties:

- Iran was among the first countries to recognize Israel's independence in 1948, establishing diplomatic relations.
- During the 1948 Arab-Israeli War, Iran remained neutral, which allowed it to establish ties with Israel after Israel's victory.
- Prime Minister David Ben-Gurion of Israel initiated the "periphery doctrine," seeking alliances with non-Arab, mainly Muslim, states like Turkey and pre-revolutionary Iran. This strategy aimed to counterbalance Arab hostility in the region.
- Mohammad Reza Shah Pahlavi, Iran's ruler from 1941 to 1979, pursued a pro-Western foreign policy.

Despite facing economic boycotts from Arab states, Iran maintained diplomatic and economic ties with Israel, including the sale of oil.

The 1979 Revolution:

- The 1979 Iranian Revolution led to the establishment of an Islamic republic, drastically altering Iran's foreign policy stance.
- Ayatollah Khomeini, the Supreme Leader of Iran, viewed Israel as an illegitimate occupier of Palestinian land. He famously labelled Israel as the "Little Satan," along with the United States as the "Great Satan," accusing both of interfering in the region.
- The new regime in Iran sought to challenge the influence of US-aligned powers like Israel and Saudi Arabia in the Middle East.

A Shadow War after 1979:

- Post 1979, Iran-Israel relations deteriorated significantly, with both countries engaging in covert and proxy conflicts.
- While direct military confrontation has not occurred, both nations have sought to inflict damage on each other through proxies and strategic attacks.
- Israel has targeted Iranian facilities and nuclear scientists in efforts to hinder Iran's nuclear program. Notably, the Stuxnet cyberattack, believed to be a joint operation by the US and Israel, targeted Iran's Natanz nuclear facility.
- Iran, in turn, has supported and funded militant groups like Hezbollah in Lebanon and Hamas in the Gaza Strip, which are openly hostile to Israel.
- These activities have raised concerns about the potential for a wider conflict or confrontation in the region, especially in recent months.

Proxy Conflicts:

- **Hezbollah and Hamas:** Iran has built up proxy forces such as Hezbollah in Lebanon and supported Palestinian groups like Hamas, which are committed to Israel's destruction.
- **Shadow War:** Both nations have engaged in a covert war for years, attacking each other's assets indirectly through these proxies.

Recent Triggers:

- **Damascus Strike:** An Israeli strike on the Iranian consulate in Damascus killed senior military commanders, which Iran viewed as a violation of its sovereignty.
- **Iran's Direct Assault:** Iran's subsequent direct attack on Israel with drones and missiles was in retaliation for the Damascus strike.

Regional Dynamics:

- **War in Gaza:** The current war in Gaza, sparked by Hamas's assault on Israeli communities, has intensified the shadow war between Israel and Iran.
- **Strategic Locations:** Iran's Isfahan region, targeted by Israel, is home to military infrastructure, including a large airbase, missile production complex, and several nuclear facilities.

International Concerns:

- **Nuclear Ambitions:** Israel accuses Iran of secretly trying to develop nuclear weapons, adding a layer of complexity and danger to their conflict.
- **Global Security:** The escalation between Iran and Israel has implications for global security, with the potential to draw in other countries and escalate into a broader conflict.
- These causes are deeply interwoven with the political, ideological, and military strategies of both nations, reflecting the complex nature of Middle Eastern geopolitics. The recent escalation is a culmination of these longstanding issues, with each incident potentially setting the stage for further conflict.

Conclusion

- The implications of ongoing instability in the Middle East extend to the Global South and Global Governance. Therefore, it is imperative for the international community to encourage all parties to abstain from violence and prioritize diplomatic negotiations for solutions. Embracing responsible and balanced policies is crucial to prevent long term instability and alleviate the region's crisis.

SEMICONDUCTOR FABRICATION

Why is it in the news?

- The semiconductor device, powered by the binary revolution of 0s and 1s, shapes our daily interactions with technology and each other.

About Semiconductors

- Semiconductors exhibit properties between conductors and insulators, conducting electricity under specific conditions but not as efficiently as conductors, nor do they completely block it like insulators.

How semiconductors are made

- Engineers start by choosing a silicon wafer as the base for the semiconductor.
- Silicon, extracted from sand, undergoes rigorous purification to achieve ultra-pure levels with impurity levels as low as a few parts per billion.
- Circuit patterns are etched onto the wafer using photolithography. A light sensitive material (photoresist) is applied to the wafer, and a mask with small gaps corresponding to the circuit pattern is used to expose the wafer to light. This process erodes parts of the photoresist, leaving the circuit pattern behind.
- After photolithography, chemical and/or physical methods are used to remove unexposed parts of the photoresist, leaving behind the circuit's structure on the silicon substrate.
- Impurities are intentionally introduced into specific regions of the semiconductor to modify its electrical properties.
- Thin layers of materials, such as metals or insulators, are deposited onto the wafer's surface to create electrical connections or insulate components.
- The resulting semiconductor undergoes packaging, where individual chips are separated, encapsulated, and tested to ensure functionality and reliability. Finally, the semiconductor chips are integrated into electronic devices.

Need expertise

- Semiconductor fabrication involves intricate processes demanding ultra-high precision at each step.
- Various scientific principles, such as optics, chemistry, and materials science, are utilized in semiconductor fabrication to ensure accuracy and efficiency.
- For instance, in the photolithography process, a precise light source emitting electromagnetic radiation with a wavelength as low as 13.5 nm is essential to carve intricate circuit patterns onto silicon wafers.
- Semiconductor manufacturing is marked by specialization, leading to an oligopoly where companies specialize in specific aspects of the fabrication process.
- ASML, a spin-off of Philips, is a dominant player in semiconductor fabrication, particularly in photolithography machines. They are the sole provider of cutting edge photolithography machines worldwide, highlighting the specialized nature of semiconductor manufacturing.

Status of India in Semiconductor Fabrication

- Bengaluru serves as a prominent hub for chip design, showcasing India's leadership in this field.
- Despite expertise in chip design, India lacks ownership of the intellectual property rights (IPR) necessary for executing these designs, with most IPR retained by parent companies or entities like Arm.

- India's lack of ownership of chip design IPR limits its autonomy, resembling a scenario where India hosts outlets but lacks control over the recipe and supply chain, similar to the McDonald's business model.

Significance of Semiconductors

- Semiconductors power various technologies beyond smartphones and computers, including smart air conditioners, space telescopes, etc.
- Crucial for addressing contemporary challenges like artificial intelligence, electric vehicles, space exploration, and personalized healthcare, showcasing their significance for human advancement.
- Semiconductor technology fosters innovation, high paying job creation, and nurtures deep-tech startups, contributing to advancements in diverse fields such as materials science, computer engineering, and chip design.
- Semiconductors are a focal point of geopolitical interest, with nations competing to establish fabrication facilities and imposing sanctions to control access to advanced technology, driving efforts to bolster domestic semiconductor production capabilities.

Challenges in Semiconductor Manufacturing in India

- India's lack of ownership of essential Intellectual Property Rights (IPR) for chip fabrication limits its capabilities.
- Despite progress in chip design, India struggles with technology transfer issues, hindering indigenous manufacturing.
- Developing semiconductor manufacturing facilities necessitates significant investment in infrastructure.
- The industry requires highly skilled professionals proficient in chip design, fabrication, and testing, posing a challenge due to skill shortages.
- India's regulatory framework, including policies on intellectual property, taxation, and investment, may not be conducive to attracting semiconductor manufacturing investments.

Measures to Address Challenges

- Offer specialized courses and certifications to equip individuals with the necessary skills.
- Implement reforms to create a conducive regulatory environment for the semiconductor manufacturing sector.
- Encourage diversification of semiconductor supply chains by supporting domestic suppliers and fostering partnerships with global manufacturers.
- Provide financial support and incentives for semiconductor R&D projects to foster innovation.
- Forge partnerships with leading semiconductor producing countries and organizations to leverage expertise, share best practices, and facilitate technology transfer.

Conclusion

- Addressing challenges in semiconductor manufacturing in India requires collaborative efforts, investment in infrastructure and education, regulatory reforms, and strategic partnerships.
- These measures are crucial for India to strengthen its position in the global semiconductor industry.

Technology behind manufacturing a semiconductor chip

- The Union Cabinet approved the establishment of three semiconductor facilities in Assam and Gujarat.
- This move diversifies geographical distribution, fosters regional development, and aligns with the Make in India initiative.

Need for Semiconductor Hub in India

- **Diversification of Supply Chain:** Currently, only a few countries manufacture computer chips, leading to vulnerabilities in global supply chains. Establishing semiconductor facilities in India reduces dependence on a single country and enhances supply chain resilience.
- **Mitigation of Geopolitical Risks:** Geopolitical tensions between countries, such as the Taiwan issue, highlight the need for diverse semiconductor manufacturing locations. By developing semiconductor hubs in India, the country can mitigate risks associated with geopolitical conflicts and disruptions.
- **Resilience to Pandemics:** The COVID-19 pandemic disrupted global supply chains, including semiconductor manufacturing. Creating semiconductor facilities in India enhances resilience to future pandemics or similar crises by ensuring continuity of chip production.
- **Enhanced Technological Capabilities:** Establishing semiconductor facilities fosters technological advancements and expertise in chip manufacturing within India. This contributes to the country's technological self-reliance and promotes innovation in the semiconductor sector.

- **Job Creation and Economic Growth:** Semiconductor manufacturing hubs generate employment opportunities and stimulate economic growth through investments, infrastructure development, and ancillary industries. This supports India's objectives of job creation and economic development.
- **Strategic Partnerships:** Collaborating with international companies, such as the TATA Group's partnership with Powerchip Semiconductor Manufacturing Corporation (PSMC), facilitates technology transfer, knowledge exchange, and capacity building in semiconductor manufacturing.

Efforts made by the Indian Government to build Semiconductor Ecosystem

India Semiconductor Mission (ISM):
- Established by the Indian government to promote semiconductor industry growth.
- Offers initiatives and incentives to boost semiconductor and display manufacturing.

Domestic Manufacturing Boost:
- Efforts to attract international investments to strengthen domestic manufacturing.
- **Example:** Micron Technology's planned ATMP facility in Gujarat, with a $2.75 billion invest ment.

International Partnerships:
- Collaboration between the US Semiconductor Industry Association (SIA) and the India Electronics and Semiconductor Association (IESA).
- US has similar alliances with top semiconductor makers like Taiwan and Japan.

Additional Information

Semiconductor Chip
- Made of semiconductor material like silicon or germanium.
- Serves as the fundamental unit of electronic circuits, performing various functions like data processing and storage.

Transistor
- A semiconductor device used for amplifying or switching electronic signals and power.
- Acts as a basic component in modern electronic devices, functioning as an electronic switch or amplifier.

Fabrication Technology
- Process of creating electronic devices and integrated circuits on semiconductor materials such as silicon.
- Involves complex steps to build electronic components and connect them to form functional circuits.

BASEL III ENDGAME

Why is it in the news ?

- The U.S. Federal Reserve has announced significant changes to a proposal for stricter bank capital requirements known as the "Basel III endgame."

About Basel and why is it considered contentious

- Basel III, established by the Basel Committee on Banking Supervision, aims to strengthen the resilience of the banking sector by setting minimum capital requirements, addressing leverage ratios, and improving liquidity standards. It was devised in response to the 2008 global financial crisis to prevent similar crises in the future.

- The Basel Committee, hosted by the Bank for International Settlements (BIS) in Basel, Switzerland, is composed of central bankers and regulators from various countries. Its role is to develop international banking standards and guidelines to promote financial stability.

- The "endgame" phase, agreed upon in 2017, represents the final stage of implementing Basel III standards. It aims to complete the regulatory reforms initiated after the financial crisis and further enhance the resilience of the global banking system.

Proposed Changes

- The U.S. Federal Reserve's proposed changes aim to overhaul how banks assess and manage risks, particularly focusing on credit risk, market risk, and operational risk.

- **Credit Risk**: Regulators intend to end banks' reliance on internal risk models for determining capital requirements against lending activities such as mortgages and corporate loans. This is due to concerns that banks' internal models may underestimate the true level of risk.

- **Market Risk:** Proposed changes include establishing new requirements for banks to assess risks from market fluctuations and trading activities more accurately. Regulators suggest that current methods for assessing market risk may not adequately capture the true level of risk.

- **Operational Risk**: There is a renewed emphasis on operational risk, which encompasses potential losses resulting from internal policy failures, management errors, legal costs, or external events. Regulators propose replacing banks' internal risk models with a standardized approach to calculate capital levels for operational risks.

Industry Concerns :

- **Capital Burdens:** Banks argue that the proposed changes could impose significant capital burdens, potentially limiting their ability to lend and support economic growth.

- **Lobbying Efforts:** Banks have actively lobbied against the proposed changes, expressing concerns about increased costs and potential limitations on fee income. They fear that complying with the new regulations could reduce their profitability.

- **Disproportionate Impact:** Some banks fear that they may face disproportionately higher capital requirements under the proposed changes, which could exacerbate disparities within the banking sector.

Regulatory Response

- **Counter Arguments:** Regulators counter industry concerns by asserting that banks are currently well capitalized and have the capacity to raise funds through earnings retention over a short period.

- **Expected Revisions:** The Federal Reserve and other regulatory authorities are expected to revise the proposal significantly in response to industry feedback. These revisions are anticipated to address concerns raised by banks and mitigate potential adverse impacts on the banking sector and the economy.

- **Confirmation of Revisions:** Federal Reserve Chair Jerome Powell has confirmed the expectation of "broad, material" changes to the proposed regulatory framework, indicating a willingness to accommodate industry concerns while maintaining the integrity of the regulatory reforms.

An overview of Basel Norms

- Basel Norms refer to global banking standards established by the Basel Committee on Banking Supervision (BCBS), hosted by the Bank for International Settlements (BIS) in Basel, Switzerland.

- The BCBS formulates supervisory guidelines known as the Basel framework to ensure banks maintain adequate capital to meet obligations and absorb losses.

- Basel standards aim to promote financial stability by enhancing the resilience of the banking system.

- India has adopted Basel standards to align its banking practices with global norms, thus ensuring consistency and adherence to international standards in the banking sector.

Basel Norm	Description
Basel I	* Introduced in 1988 as the Basel Capital Accord. * Focused on credit risk. * Set a minimum capital requirement of 8% of risk weighted assets (RWA). * Assets were assigned risk weights based on their risk profile. Adopted by India in 1999.
Basel II	* Published in June 2004, aiming to refine and reform Basel I. * Introduced three pillars: Capital Adequacy Requirements, Supervisory Review, and Market Discipline. * Increased focus on risk management and disclosure. * Yet to be fully implemented in India and abroad.
Basel III	* Released in 2010 after the 2008 financial crisis, aiming to strengthen the banking system. * Made banking activities more capital intensive. * Focused on four key parameters: Capital, Leverage, Funding, and Liquidity. * Designed to promote a more resilient banking system.
Basel IV	* In 2017, the Basel Committee agreed on changes to global capital requirements, considered an extension of Basel III. * These changes are comprehensive and seen as an entirely new framework, set to take effect under transition rules from 2025.

Conclusion

- The Basel III Endgame proposals are estimated to increase capital requirements by about 16% on average, which could lead to a substantial rise in the Common Equity Tier 1 (CET1) capital levels and Risk Weighted Assets (RWA) for large banking organizations across the world.

- This increase may disadvantage U.S. domiciled global banks and could constrain their lending

capacity and capital markets activities, potentially benefiting non-bank financial institutions (NBFIs).

- The deviation from the international Basel framework could create an uneven playing field and operational burdens for banks, as they may need to maintain parallel calculation and reporting systems for significant jurisdictions.

Way Forward

- It is crucial to achieve a consensus on the objectives of the reforms, which include adapting frameworks to address emerging risks such as climate change, cybersecurity, and fintech innovations. Banks should begin mobilizing immediately to address the key changes and associated impacts, focusing on implementation considerations and preparing for the transition period starting July 1, 2025, with full implementation by July 1, 2028.

- Stakeholders should engage in the extended comment period to provide inputs and ensure that the reforms do not only strengthen the banking system but also support a harmonized regulatory environment that fosters global financial stability.

INCOME AND WEALTH INEQUALITY IN INDIA, 1922- 2023

Why is it in the news?

- A working paper titled "Income and Wealth Inequality in India, 1922-2023: The Rise of the Billionaire Raj" by the World Inequality Lab (WIL) reveals a concerning trend.

- The World Inequality Lab (WIL), headquartered in Paris is a global research centre dedicated to studying inequality and advocating for policies that advance social, economic, and environmental justice.

- The distribution of economic growth in India, now the world's largest by geographic size and population, carries profound implications for global inequality dynamics. Therefore, accurately measuring income and wealth inequality in India is paramount.

- In this paper, various data sources such as national income accounts, wealth aggregates, tax records, rich lists, and surveys on income, consumption, and wealth are integrated to create consistent, long-term series for analyzing income and wealth inequality in India.

- According to it, the inequality in India declined post-independence until the early 1980s, but has since been on a rising trajectory, particularly soaring since the early 2000s.

- The gap between India's rich and poor has widened to such an extent that, by some measures, the income distribution in India was more equitable under British colonial rule than it is presently, as asserted by the group of economists co-authoring the study, which includes the esteemed French economist Thomas Piketty.

Key Takeaways

Growth in Average Incomes:

- India's average income grew at a rate of 2.6% per year between 1960 and 2022, with a notable acceleration to 3.6% per year between 1990 and 2022.

- The periods 2005-2010 and 2010-2015 witnessed the fastest growth at 4.3% and 4.9% per year respectively.

Emergence of Very High Net Worth Individuals:

- Between 1990 and 2022, there was a rise in national wealth and the emergence of very high net worth individuals, with the number increasing from 1 to 52 to 162 in 1991, 2011, and 2022 respectively.

Rise in Percentage of Income Tax Payers:

- The share of the adult population filing income tax returns grew significantly, from under 1% until the 1990s to around 9% in the years 2017-2020.

Extreme Levels of Inequality in India:

- In 2022-23, 22.6% of India's national income was captured by the top 1%, the highest level recorded since 1922, with the top 1% wealth share at 40.1%.

- India's current wealth inequality surpasses even the levels during the inter-war colonial period.

Extreme Wealth Concentration at the Very Top:

- The wealth accumulation process in India demonstrates extreme concentration at the very top, with the top 1% wealth share increasing threefold from 1961 to 2023.

International Comparison of Income and Wealth Inequality:

- India's income share of the top 1% is among the highest globally, with the top 1% income share standing at 22.6%.

Inequality in five charts

Figure 1: Long-run income inequality in India, 1951-2022
Distribution of pre-tax per-adult net national income
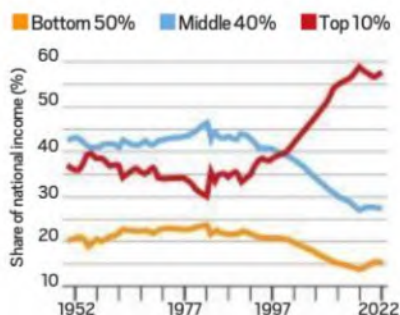
Figure 2: Top 1% national income share, 1922-2022
Distribution of pre-tax per-adult net national income
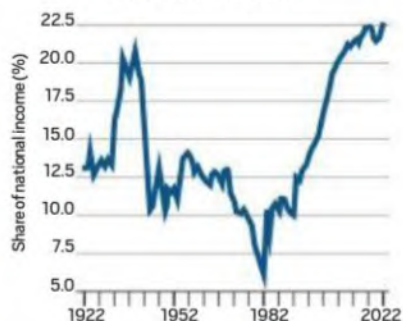
Figure 3: Top 1% national wealth share, 1961-2023
Distribution of per-adult national wealth
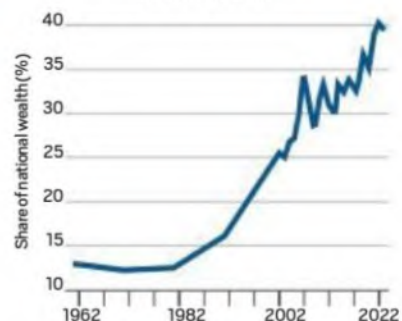
Figure 4: Top income shares, global perspective, 2022-23
India and others: top 10% and 1% income shares
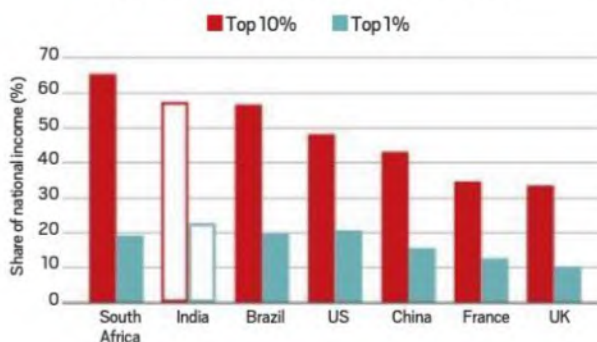
Figure 5: Top wealth shares, global perspective, 2022-23
India and others: top 10% and 1% wealth shares
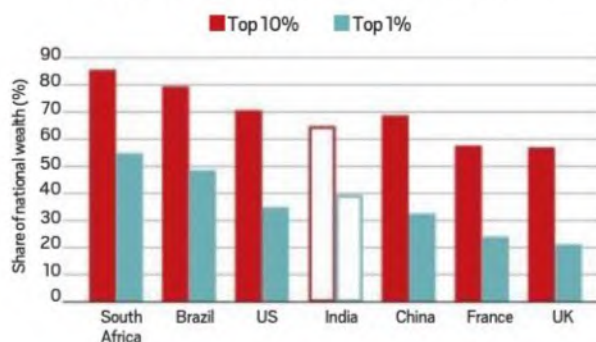
- However, India's wealth inequality ranks in the middle compared to countries like Brazil and South Africa.

Poor Data Quality Leading to Underestimation of Inequality:

- The quality of economic data in India is noted to be poor, likely leading to an underestimation of actual inequality levels.

Policy Solutions:

- The paper suggests implementing a super tax on Indian billionaires and multimillionaires, along with restructuring the tax schedule to include both income and wealth, to finance investments in education, health, and public infrastructure as effective measures to address rising inequalities.

An Analysis

- Inequality in India decreased post-independence until the early 1980s but has since been on the rise, especially soaring since the early 2000s.

- Between 2014-15 and 2022-23, there was a noticeable surge in wealth concentration among the top earners.

- The paper highlighted the poor quality of economic data in India, noting a recent decline.

- It mentioned that the top 1% of the population's income share appears to be among the highest globally, trailing only possibly Peru, Yemen, and a few other small nations.

- Regarding top wealth shares, India ranks in the middle of the pack, with Brazil and South Africa standing out for their extreme wealth concentration levels (85.6% and 79.7% top 10% shares, respectively).

- The paper suggests that the Indian income tax system may be regressive when considering net wealth.

- Reforming the tax code to account for both income and wealth, coupled with broad public investments in health, education, and nutrition, is crucial for ensuring widespread access to the benefits of globalization.
- Implementing a "super tax" of 2% on the net wealth of the 167 wealthiest families in 2022-23 could yield significant revenue, creating fiscal space for such investments.
- The paper highlights the poor quality of economic data in India, indicating that the new estimates likely represent a conservative estimate of actual inequality levels.

Way forward

- While the paper's wealth inequality series covers 1961 to 2023, access to tax tabulations dating back to 1922, when the Income Tax Act was enacted by the British administration, enabled the authors to analyze the top one percent income share over a century. The "Billionaire Raj" led by India's contemporary bourgeoisie is now even more unequal than the British Raj led by colonialist forces.
- The gap between India's rich and poor has widened to such an extent that, by some measures, the income distribution in India was more equitable under British colonial rule than it is presently, as asserted by the group of economists coauthoring the study, which includes the esteemed French economist Thomas Piketty.

ILO: India Employment Report 2024

Why is it in the news?

- The Institute for Human Development (IHD) and the International Labour Organisation (ILO) released the 'India Employment Report 2024', underscoring the persistent challenge of soaring unemployment rates among Indian youth.

- This report underscores the ongoing struggle faced by India's youth in finding employment opportunities, signalling the need for comprehensive policy interventions to address the issue.

Key highlights of the Report
Poor Employment Conditions

- Despite overall improvements in labour force participation and employment rates, employment conditions in India persist as poor.

- Challenges include stagnant or declining wages, a rise in self-employment among women, and a higher proportion of unpaid family work among youth.

- India's youth represent a significant portion of the unemployed workforce, comprising almost 83%.

- The share of young people with secondary or higher education among the unemployed has nearly doubled from 35.2% in 2000 to 65.7% in 2022.

Youth Employment Challenges:

- Youth employment and underemployment increased notably between 2000 and 2019, particularly affecting educated youths.

- Key labour market indicators such as the Labour Force Participation Rate (LFPR), Worker Population Ratio (WPR), and Unemployment Rate (UR) exhibited a long-term deterioration from 2000 to 2018.

- However, there was an improvement in these indicators after 2019, coinciding with periods of economic distress, both before and after the onset of the COVID-19 pandemic.

- Notably, there were exceptions to this trend during two peak COVID-19 quarters, suggesting temporary setbacks in labour market recovery.

Paradoxical Improvements:

- India's job market has witnessed improvements in certain labour indicators over the past two decades, but overall employment remains challenging.

- Non-farm sectors have not grown adequately to absorb workers from agriculture, despite non-farm employment growing faster than farm employment until 2018.
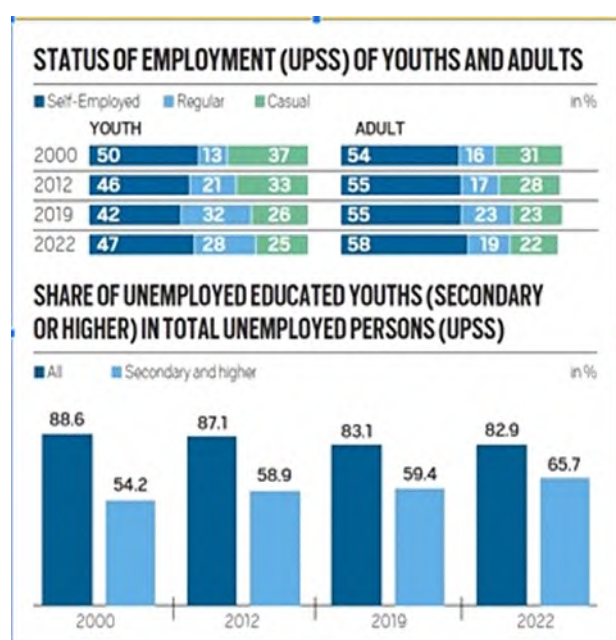
Employment blues

Labour participation for various sections increased slightly in 2022 (compared to 2019) but was still low vis-a-vis 2000
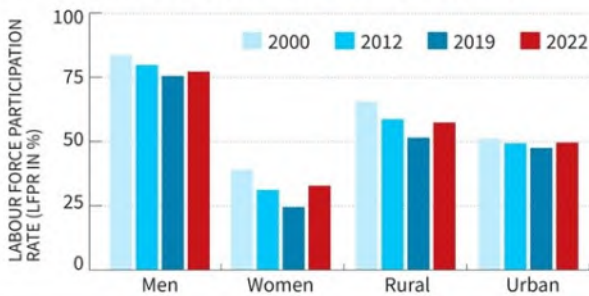
- Approximately 90% of workers are engaged in informal work, and the proportion of regular employment, which was steadily increasing after 2000, started declining after 2018.
- India's large young workforce faces challenges due to a lack of necessary skills, with a significant portion lacking basic digital literacy skills.
- Statistics indicate concerning levels of digital illiteracy among youth, with 75% unable to send emails with attachments, 60% unable to copy and paste files, and 90% unable to perform basic spreadsheet tasks like putting a mathematical formula.

Wages and Earnings Decline:
- Wages of casual labourers experienced a modest upward trend from 2012 to 2022, but real wages of regular workers remained stagnant or declined during this period.
- Self-employed individuals also faced declining real earnings after 2019.
- Overall, wages have remained low across various sectors.
- A significant proportion of unskilled casual agricultural workers and construction workers did not receive the prescribed daily minimum wages in 2022, with as much as 62% and 70% respectively not meeting this requirement.

Changing Structure of Industrial Employment:
- There has been a rapid rise in digitally mediated gig and platform work, characterized by algorithmic control by the platforms.
- Platform and gig work are expanding significantly, but they largely extend the realm of informal work.

- These forms of work often lack adequate social security provisions for workers.
- The rise of platform and gig work introduces new features in labour process control, influencing how work is organized and executed.

Future Migration Trends:
- Future projections indicate significant increases in urbanization and migration rates in India.
- By 2030, India is expected to have a migration rate of around 40% and an urban population of approximately 607 million.
- The majority of urban growth will stem from migration, highlighting the significant role of internal migration in shaping urban demographics.
- Migration patterns exhibit regional imbalances in labour markets, with movement typically from eastern, north-eastern, and central regions to southern, western, and northern regions.

Regional Disparities:
- There are significant variations in employment outcomes across states in India.
- Certain states, including Bihar, Uttar Pradesh, Odisha, Madhya Pradesh, Jharkhand, and Chhattisgarh, consistently rank lower in employment indicators.
- These states have struggled with poor employment outcomes over the years, indicating the influence of regional policies on labour market dynamics.
- Factors such as economic development, infrastructure, education, and governance play a role in shaping employment opportunities in these states.

Gender Gap and Social Inequalities
- India grapples with a significant gender gap in the labour market, characterized by low rates of female labour force participation.
- Young women, particularly those with higher education levels, face substantial unemployment challenges.
- Despite affirmative action and targeted policies, social inequalities persist, with Scheduled Castes and Scheduled Tribes encountering barriers to accessing quality job opportunities.
- Educational attainment has improved across all demographic groups; however, entrenched social hierarchies exacerbate employment disparities.

POLITY & GOVERNANCE

1. Kovind Committee Report on "One Nation One Election"

Why is it in the news?

- The High-level committee headed by former President Ram Nath Kovind has recommended simultaneous elections to the Lok Sabha and State Assemblies as the first step and hold municipal and panchayat polls within 100 days of the general election in the next phase.

About Simultaneous Election

- "One Nation, One Election" entails conducting elections for Lok Sabha, state Legislative Assemblies, and local bodies (municipalities and panchayats) concurrently, aiming for synchronization in the electoral process.
- Simultaneous elections were historically practiced until 1967 but ceased due to political instability and constitutional amendments.

Recommendation for Simultaneous Elections

- The Committee suggests comprehensive amendments to the Constitution of India to facilitate the implementation of simultaneous elections.

First Constitution Amendment Bill:

- This bill focuses on the transition to simultaneous elections and outlines procedures for conducting fresh elections before the completion of the stipulated five year term.
- It empowers Parliament to pass relevant legislation without mandatory consultation with state governments or ratification by state Assemblies.

Second Constitution Amendment Bill:

- The second bill primarily addresses municipal and panchayat elections, along with the establishment of a Single Electoral Roll by the Election Commission of India.
- Given the subject matter's alignment with the State List, this bill requires ratification by more than half of India's states.

Transition Process:

- The proposed insertion of a new article 82A into the Constitution lays down the procedural framework for transitioning to simultaneous elections.
- It mandates that all Legislative Assemblies constituted after the designated date shall conclude upon Lok Sabha's term expiration.

Challenges of One Nation One Election

01 Economic efficiency
Reducing government expenditure and political parties' costs incurred during multiple elec-tions.

02 Stability and certainty:
Minimizing disruptions to governance, businesses, and citizens' lives caused by frequent elections.

03 Administrative effectiveness:
Easing logistical burdens on government machinery and security forces.

04 Voter engagement:
Mitigating "voter fatigue" and enhancing participation through stream-lined electoral processes.

05 Policy continuity:
Reducing interruptions due to Model Code of Conduct (MCC) imposition during election periods.

Expansion of Parliament's Powers:

- Parliament's authority under Article 327 is recommended to be expanded to encompass the conduct of simultaneous elections, in addition to its existing jurisdiction over electoral matters.

Provisions for Dissolution Before Full Term:

- The amendments proposed for Articles 83 and 172 outline procedures in cases where Lok Sabha or state Assemblies are dissolved before completing their full term.
- This includes defining the remaining period as the "unexpired term" and specifying the duration of replacement legislative bodies until simultaneous elections are conducted.

Inclusion of Union Territories:

- The report suggests amendments to laws governing legislative Assemblies in Union Territories to ensure their elections align with the simultaneous poll framework.

Simultaneous Local Body Elections:

- Recommendations entail empowering Parliament to oversee municipal and panchayat elections in conjunction with General Elections.
- Additionally, the creation of a Single Electoral Roll by the Election Commission is proposed to streamline the electoral registration process.

Ratification Requirement:

- Due to the subject matter's inclusion in the State List, the amendments pertaining to municipal and panchayat elections necessitate ratification by states, ensuring cooperative federalism in implementing the proposed reforms.

The proposal aims to address various challenges

- **Economic efficiency:** Reducing government expenditure and political parties' costs incurred during multiple elections.
- **Stability and certainty:** Minimizing disruptions to governance, businesses, and citizens' lives caused by frequent elections.
- **Administrative effectiveness**: Easing logistical burdens on government machinery and security forces.
- **Policy continuity:** Reducing interruptions due to Model Code of Conduct (MCC) imposition during election periods.
- **Voter engagement**: Mitigating "voter fatigue" and enhancing participation through stream lined electoral processes.

2. Section 123(3) of the Representation of the People Act, 1951

Why is it in the news?

- Various parties and their leaders have faced accusations of violating Section 123(3) of the Representation of the People Act.

About Section 123(3) of the RPA 1951

- Candidates or their associates are prohibited from making appeals to voters to vote or refrain from voting based on their religion, race, caste, community, or language.
- It condemns any efforts by candidates to promote feelings of enmity or hatred among citizens on the basis of religion, race, caste, community, or language during elections.
- Aims to ensure that electoral processes are conducted in a free and fair manner, devoid of appeals to communal or sectarian sentiments of the voters.
- Highlights the principle that electoral appeals should be based on policies, performance, and public welfare rather than narrow communal or sectarian lines.
- Recognizes the importance of preventing corrupt electoral practices that exploit identity based divisions to influence voter behaviour.
- Upholds democratic values of equality, inclusivity, and non-discrimination by discouraging appeals that seek to divide voters along identity lines.

3. ASI will delist some lost monuments

Why is it in the news?

- The Archaeological Survey of India (ASI) is delisting 18 centrally protected monuments due to a lack of national importance.
- These monuments, previously categorized as "untraceable," include significant sites like Kos Minar No.13, Barakhamba Cemetery, Gunner Burkill's tomb, a cemetery at Gaughat, and the Telia Nala Buddhist ruins.

More about the news

- Delisting means these monuments will no longer receive conservation, protection, and maintenance by ASI.

- Construction related activities will be allowed around delisted sites, as opposed to the restrictions under the Ancient Monuments and Archaeological Sites and Remains Act, 1958 (AMASR Act).
- In 2022, the Ministry of Culture reported 50 missing monuments out of 3,693 protected ones.
- Only 248 monuments had security guards due to budgetary constraints.
- A 2013 report by the Comptroller and Auditor General (CAG) of India identified 92 missing monuments.
- Efforts to locate missing monuments have been ongoing, with some success in identifying and accounting for a portion of them.

5. Armed Forces (Special Powers) Act, 1958 (AFSPA)

Why is it in the news?

- The Ministry of Home Affairs (MHA) extended the Armed Forces (Special Powers) Act, 1958 (AFSPA) in Nagaland and Arunachal Pradesh, granting armed forces the authority to maintain public order in "disturbed areas".
- Further, Assam government also extended AFSPA 1958 in four districts for another six months.

About AFSPA

- AFSPA, 1958 empowers armed forces with special privileges in disturbed areas, including the authority to prohibit gatherings, use force or open fire, make arrests without warrants, conduct searches, and ban possession of firearms.
- Disturbed areas are declared under Section 3 of AFSPA when a part or whole State/Union Territory (UT) necessitates the use of armed forces to aid civil power, which can be declared by the Central Government, Governor of State, or UT administrator.

- Concerns regarding AFSPA include violations of the right to life and right to remedy, potential misuse of powers by armed forces, and violation of international laws such as the Universal Declaration of Human Rights. Immunity under AFSPA prevents prosecution, suits, or legal proceedings against actions taken in exercise of powers conferred by the Act without previous sanction of the Central Government.

SC Judgement related to AFSPA

- The Supreme Court (SC) addressed the issue of AFSPA in the case of Extra Judicial Execution Victim Families Association v Union of India (2016), ruling that there is no absolute immunity from trial by criminal court even for offenses committed by army personnel, emphasizing accountability and adherence to legal norms.

6. MHA extends the Validity of FCRA Registration of NGOs

Why is it in the news?

- The Ministry of Home Affairs (MHA) has extended the validity of Foreign Contribution (Regulation) Act (FCRA) registration of NGOs until June 30. This extension applies to all FCRA registered NGOs whose renewal applications are still under consideration and whose validity expires before June 30.

Key Provisions of FCRA Registration

- Requirement for NGOs wishing to receive foreign donations to register with the MHA. Registration is valid for 5 years and can be renewed.
- FCRA registrations are granted to individuals or associations with definite cultural, economic, educational, religious, and social programs.
- Certain individuals such as candidates for elections, editors or publishers of newspapers, judges, government servants, etc., are prohibited from receiving foreign donations under FCRA.

Foreign Contribution (Regulation) Act (FCRA)

Whom	Prohibition	Utilisation of Funds	Annual returns	Security
FCRA is applicable for those individuals or associations (with definite cultural, economic, educational, religious and social programs) who receive foreign donations	Certain individuals such as candidates for elections, editors or publishers of newspapers, judges, government servants, etc., are prohibited from receiving foreign donations under FCRA.	Organizations that receive foreign donations must utilize them for the purposes they were re-ceived and adhere to the regulations outlined in the Act.	They are also required to file annual returns and are prohibited from transferring the funds to another NGO.	The significance of FCRA lies in its regulation of foreign donations to ensure they do not ad-versely affect internal security.

- Organizations that receive foreign donations must utilize them for the purposes they were received and adhere to the regulations outlined in the Act.
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- The significance of FCRA lies in its regulation of foreign donations to ensure they do not adversely affect internal security.

7. Govt. to record parents' religion to register births

Why is it in the news?

- Parents registering a child's birth must now separately state the religion of both the father and mother, as outlined in the Model Rules drafted by the Union Ministry of Home Affairs.

More about the news

- The proposed "Form No.1 Birth Report" includes fields for recording the religion of the child's father and mother, expanding beyond the previous practice of recording only the family's religion.
- These changes are in accordance with the Registration of Births and Deaths (Amendment) Act, 2023, passed by Parliament, which mandates the maintenance of a national birth and death database.
- The database generated through birth and death registrations will be utilized to update various official records, including the National Population Register (NPR), electoral rolls, Aadhaar number, ration cards, passports, driving licenses, and property registrations.
- All reported births and deaths in the country are digitally registered through the Centre's portal for the Civil Registration System (CRS), effective since October 1, 2023.
- Digital birth certificates issued through this system serve as a single document for proving the date of birth, facilitating processes like admission to educational institutions.
- The Office of the Registrar General of India (RGI) has proposed substituting existing registration forms to accommodate the new requirements, including recording Aadhaar numbers and contact details of parents.
- Information on parents' religion will be maintained for statistical purposes in the birth register, alongside other demographic data.

- The RGI is tasked with maintaining the database of registered births and deaths at the national level, with Chief Registrars and Registrars obligated to share data accordingly.
- CRS data, including vital statistics like sex ratio at birth and infant mortality, is crucial for socio-economic planning and evaluating the effectiveness of social sector programs, forming the basis of public health system assessments.

8. India planning to opt Living Wage instead of Minimum Wage

Why is it in the news?

- India intends to transition from minimum wage to living wages with International Labour Org
- anisation (ILO) assistance by next year.
- A **living wage**, as defined by the ILO, is the remuneration needed to maintain a decent standard of living for workers and their families, factoring in the country's conditions and typical work hours.
- Unlike the **minimum wage**, which is the legal minimum employers must pay for work, the living wage generally exceeds this amount to ensure adequate livelihoods.

Global Trends

- Multiple nations, including the UK, Canada, and Belgium, have raised their minimum wages to shield their workforce from inflation.
- The UK saw a significant increase of 9.8% in its national living wage, while Canada's federal minimum wages rose by 3.9%.
- Additionally, Belgium elevated its minimum wage, surpassing Rs 2,000 per month.

Indian Scenario

- In India, despite many earning a daily minimum wage of 176 or more, the stagnant national wage floor since 2017 lacks enforceability across states, resulting in wage payment disparities.
- The living wage varies across regions based on the cost of living, with reports indicating it to be around Rs.10,300 per month for an individual as of 2018, highlighting the need for a more equitable compensation system nationwide.

Impact of living wage on Indian Economy

- Implementing a living wage in India could boost consumption and stimulate economic growth by raising wages to support a decent standard of living.

- However, it may also lead to wage push inflation and strain small and medium enterprises financially, impacting profitability.
- While addressing income inequality, it requires careful planning to mitigate potential economic slowdown and ensure a fairer pay system for all workers, including young people entering the labor market.

Conclusion

- Transitioning to a living wage in India signifies a crucial advancement in enhancing the livelihoods of workers, especially those on contractual terms, with the potential to alleviate poverty and improve overall well-being.
- India's dedication to establishing a robust system, supported by the ILO's technical assistance, is essential for effectively implementing this policy and achieving its intended benefits.

9. ECI for the first time provides facilities of home voting

Why is it in the news?

- The **Election Commission of India** (**ECI**) has introduced the facility of home voting for the first time in the upcoming 2024 elections, aligning with its motto of ensuring that no voter is left behind.

More about the news

- This initiative enables eligible voters to cast their votes from the comfort of their homes, facilitated by a full contingent of polling staff and security personnel, ensuring the secrecy of voting is rigorously maintained.
- The home voting facility primarily caters to two groups: **persons with disabilities** (**PwDs**) meeting the 40% benchmark disability criteria, and senior citizens aged above 85 years, ensuring inclusivity in the electoral process.

Other initiatives taken by ECI:

- The ECI has eased the voting process for Kashmiri migrants residing in Jammu and Udhampur by abolishing the requirement of Form-M, simplifying the voting procedure for this demographic.
- The ECI employs **Systematic Voter's Education and Electoral Participation (SVEEP)** initiatives to engage PwDs and sensitize their friends, families, and polling officials, promoting inclusivity and awareness in the electoral process.

- **Proposed Multi-Constituency Remote Electronic Voting Machine (RVM):** This innovation aims to enable migrant voters to cast their votes from their current place of residence, enhancing accessibility and participation in the electoral process.
- The ECI allows certain categories of voters, including special voters, service voters, voters on election duty, and electors subjected to preventive detention, to cast their votes by post, ensuring their participation in the electoral process.
- Registered service voters, including members of the armed forces, police force serving out side their home state, and government employees serving abroad, are eligible to delegate their voting rights to a representative through proxy voting, facilitating their participation in elections despite their geographical location or duty status.

10. SC concern about states approaching court over fund disbursal by Centre

Why is it in the news?

- Karnataka recently approached the SC seeking relief over fund disbursement for drought management, while Tamil Nadu previously did the same for cyclone relief and flood management.

More about the news

- States currently finance only 58% of their revenue expenditure from their own revenue sources. The debt-GDP ratio of states stands at 27.5% as of March 2023.
- Several factors contribute to states' dependency on the central government, including the cessation of GST compensation, lower revenue from State Goods and Services Tax (SGST) compared to pre-GST tax revenues, and the increased use of cesses and surcharges by the Centre. Additionally, measures like farm loan waivers strain state finances.
- Efforts have been made to improve state finances, including the Scheme for Special Assistance to States for Capital Expenditure, which provides interest free loans to states.

- The 15th Finance Commission recommended performance based additional borrowing space for states in the power sector.

- To address these challenges, fostering a business friendly tax administration to enhance revenue collection is crucial. Revision of user charges on essential services like electricity and water can also boost non-tax revenue.

Constitutional Provisions related to States' finances

- **Article 275:** Parliament may by law provide to certain states, grants-in-aid charged on Consolidated Fund of India.
- **Article 282**: Enables Union (and states) to make discretionary grants, for any 'public purpose'.
- **Article 293:** Confers power on States to borrow money within limits prescribed by State legislature.

11. Supreme Court: Forests in India are a National Asset

Why is it in the news?

- The Supreme Court of India, in the State of Telangana vs Mohd. Abdul Qasim case, declared that forests in India are a national asset.

More about the news

- The judgment emphasized the need to transition from an anthropocentric approach, which prioritizes human needs, to an eco-centric approach, which prioritizes the needs of nature.
- This approach recognizes humans as one part of life on Earth and advocates living within ecological limits rather than considering humans as the sole purpose of environmental protection.
- The judgment highlighted the financial wealth generated by forests, noting that a country with excess forest cover could sell its excess carbon credits, with a carbon sink of about 24,000 mt of CO_2 worth approximately \$120 billion.
- Forests were recognized for their role in mitigating climate change, with the judgment citing a report by the RBI indicating that the effects of climate change, such as rising temperatures and changing rainfall patterns, could cost India's economy 2.8% of its GDP.
- The judgment endorsed the concept of "Green Accounting," which evaluates a nation's wealth, including its natural assets, and highlighted the significant benefits, both tangible and intangible, of such an approach.

Key Supreme Court Judgements

- **M.C. Mehta v. Kamal Nath (2000):** Stressed the importance of considering Article 48A and 51A of the Constitution in light of Article 21, stating that any disturbance to the basic environmental elements necessary for life would be hazardous to life within the meaning of Article 21.
- **Municipal Corpn. of Greater Mumbai v. Ankita Sinha (2022):** Emphasized the concepts of Environmental Justice and Environmental Equity.

12. Doctrine of Harmonious Construction

Why is it in the news?

- The Supreme Court refused to condone a delay of 5659 days in an appeal filing, outlining eight guiding principles by interpreting Sections 3 and 5 of the Limitation Act, 1963, in a harmonious construction.

About the Doctrine

- Doctrine of harmonious construction refers to the interpretation of different provisions of a law in a manner that reconciles apparent conflicts or discrepancies, maintaining consistency and coherence in legal interpretation.
- Originates from the landmark judgment of Sri Shankari Prasad Singh Deo v. Union of India (1951), addressing conflicts between Fundamental Rights and Directive Principles of State Policy.
- It helps in interpreting statutes by ensuring that conflicting provisions are construed in a way that upholds legislative intent while resolving apparent inconsistencies.
- In the recent Supreme Court case, the doctrine was applied to harmoniously construe Sections 3 and 5 of the Limitation Act, 1963, balancing the strict interpretation of limitation periods with the liberal approach to condonation of delay.

About Limitation Act, 1963

- The Limitation Act, 1963, enacted by Parliament, prescribes time limits for initiating legal proceedings in civil and criminal matters, aiming to ensure timely resolution of disputes and maintain judicial efficiency.
- Applies to civil suits, appeals, and applications filed in courts across India, except where specific statutes provide different limitation periods.

- Sets specific limitation periods within which legal action must be initiated, such as a 3-year period for filing suits related to debt recovery, breach of contract, or personal injury.
- The limitation period typically begins from the date when the cause of action arises, i.e., when the aggrieved party becomes entitled to sue, ensuring fairness and clarity in determining legal rights.
- Provides for circumstances where the limitation period may be extended or suspended, such as when the plaintiff is under a disability or in cases of fraud discovery, allowing for equitable treatment and preventing undue hardship.
- Once the limitation period expires, the right to initiate legal proceedings becomes barred by law, depriving the aggrieved party of the opportunity to seek legal redress, highlighting the importance of adhering to statutory time limits.

Principles for Condonation of Delay :
- **Public Policy Basis:** Limitation law aims to conclude litigation by forfeiting the remedy rather than the right itself, emphasizing the importance of adherence to statutory time limits.
- **Temporal Limitation:** Rights or remedies unexercised for a prolonged duration should cease to exist, ensuring timely resolution of legal disputes.
- **Strict vs. Liberal Construction:** Section 3 (limitation period) requires strict interpretation, while Section 5 (condonation of delay) demands a liberal approach, balancing procedural requirements with equitable considerations.
- **Substantial Justice:** While promoting substantial justice, the core of limitation law (Section 3) must not be undermined, highlighting the need to uphold legal principles while addressing delay issues.
- **Discretionary Power:** Courts may condone delay if sufficient cause is explained but may refrain due to factors like inordinate delay and negligence, exercising discretion to ensure fairness and efficiency in legal proceedings.
- **Individual Justification:** Relief granted to some does not mandate the same for others if delay justification is unsatisfactory, emphasizing the need for individual assessment of delay condonation requests.

- **Merit Irrelevance:** Merits of the case need not influence delay condonation decisions, underscoring the procedural aspect of delay adjudication irrespective of case substance.
- **Condonation Parameters:** Applications for delay condonation must adhere to statutory provisions; overlooking conditions amounts to disregarding the law, emphasizing the importance of procedural compliance in legal proceedings.

Reasons for Laying Out Guidelines
- These principles emerged from a case where legal heirs sought to challenge a High Court decision dismissing their plea to condone delay in filing an appeal against a Trial Court's reference dismissal.
- The litigant's heirs argued insufficient knowledge about the dismissal due to her stay in the matrimonial house, leading to a delayed filing.
- However, the Supreme Court rejected this argument, citing negligence in pursuing the reference and appeal, lack of procedural diligence, and acceptance of the reference court's decision by most claimants.

13. Corruption has risen over the past five years, say 55% of respondents

Why is it in the news?
- According to a pre-poll survey, 55% of respondents believe that corruption has increased in the past five years, showing a significant rise compared to previous years.

More about the news
- The proportion of respondents believing that corruption has decreased has declined significantly, from 37% in 2019 to 19% in 2024.
- A majority of respondents (56%) hold both Union and State governments responsible for the increase in corruption, with a higher proportion blaming the Union government specifically.
- Regardless of respondents' locations (villages, towns, or cities), the perception of increased corruption is widespread.
- Both rich and poor respondents largely agree that corruption has increased, though there is a slight increase in the perception of decreased corruption among richer respondents.

- The ARC report highlights factors contributing to corruption, including lack of transparency, complex regulations, political interference, lack of whistleblower protection, and weak enforcement mechanisms.
- The report suggests comprehensive measures such as enhancing transparency, simplifying regulations, depoliticizing administration, and implementing robust whistleblower protection to combat rising corruption effectively.

14. SC: Candidates have a Right to Privacy from Voters

Why is it in the news?

- The Supreme Court upheld a candidate's right to privacy from voters, asserting that candidates are not obligated to disclose every aspect of their personal lives and possessions to the electorate.
- The Court clarified that the voters' right to know about the candidates is not absolute, suggesting that there are boundaries to the extent of information that candidates are required to divulge.

Right to Privacy in India

- The Right to Privacy is enshrined under Article 21 of the Indian Constitution, which guarantees the fundamental right to life and personal liberty.
- In the landmark case of Justice K.S. Puttaswamy (Retd.) v. Union of India (2017), the Supreme Court explicitly acknowledged the Right to Privacy as a fundamental right protected under Article 21.
- The court delineated privacy as comprising informational privacy, decisional autonomy, bodily integrity, and spatial privacy, emphasizing its significance in upholding personal liberty and dignity.
- The Right to Privacy safeguards individuals from unwarranted intrusions into their private lives by the state or any other entity.
- It includes the right to maintain confidentiality of personal information, make autonomous decisions about one's life and body, and retain physical and spatial autonomy, without external interference.

Corrupt practices under the RPA :

- Corrupt practices under the Representation of People Act, 1951 are outlined in Section 123.
- These practices include bribery, undue influence, dissemination of false information, and promotion of enmity among citizens based on factors such as religion, race, caste, etc.
- Section 123(2) specifically addresses "undue influence," which involves interference with electoral rights through threats or promises.
- Undue influence can take various forms, such as threats of physical harm, coercion, intimidation, promises of reward or benefit, or exploitation of vulnerabilities.
- The Act aims to curb corrupt practices that undermine the fairness and integrity of the electoral process, ensuring free and fair elections in India.

About SC's Verdict

- The Supreme Court underscored the candidate's right to privacy, clarifying that not all non-disclosures automatically constitute defects.
- Candidates are not obligated to disclose every movable property unless it directly relates to their candidacy or lifestyle.
- Each case should be evaluated individually without applying a one size fits all approach.
- Non-disclosure of certain personal possessions does not necessarily amount to a defect of substantial nature under Section 36(4) of the Representation of People Act, 1951.
- High value assets indicating a lavish lifestyle may be deemed significant, while ownership of simple, low value items may not raise concerns.

15. Supreme Court's VVPAT Judgement

Why is it in the news?

- The Supreme Court has rejected the demand for 100% verification of Voter Verified Paper Audit Trails (VVPATs) in Indian elections.

More about the news

- Th SC has dismissed all petitions seeking complete cross-verification of votes cast using Electronic Voting Machines (EVMs).
- The Court also rejected a return to the earlier ballot paper system for elections, which was demanded by opposition parties.

Background of the Case

- In March 2023, the Association for Democratic Reforms (ADR) filed a petition before the apex court, advocating for cross-verification of EVM votes with VVPATs to ensure free and fair elections.
- ADR suggested the use of barcodes on VVPAT slips to expedite the verification process.
- However, the Supreme Court dismissed these petitions, suggesting that the Election Commission of India (ECI) could explore the possibility of using electronic machines for counting paper slips and incorporating barcodes along with party symbols.

About VVPAT Machines

- VVPAT machines are attached to the ballot unit of the EVM and provide visual verification for the vote cast by printing a slip of paper with the voter's choice on it.
- The slip contains details such as the candidate's serial number, name, and party symbol, displayed to the voter for seven seconds before being deposited into a compartment.
- VVPAT slips are later used to verify votes cast in five randomly selected polling booths, ensuring the accuracy of the electronic voting process.
- The concept of VVPAT machines emerged in 2010 during discussions between the Election Commission of India (ECI) and political parties to enhance transparency in the electoral process.
- After trials and feedback, VVPATs were introduced in a phased manner, with 100% adoption achieved by June 2017.
- Current Verification Process: Presently, the Election Commission mandates the counting of VVPAT slips from five randomly selected polling booths per Assembly seat to verify the accuracy of the election results.
- VVPATs have been subject to legal challenges, including demands for increased verification. Later, Chandrababu Naidu moved the Supreme Court in 2019, seeking a minimum of 50% randomised VVPAT slip counts, which eventually led to counts in five polling stations instead.
- However, opposition parties continue to demand widened verification of VVPAT slips, with calls ranging from 50% to 100% verification.

- The Election Commission has expressed reluctance to increase the percentage of VVPAT slip verification, citing concerns such as delays in result declaration and logistical challenges.

What has changed and what remains unchanged following the Supreme Court's verdict on VVPAT verification

What remains unchanged:

- Voting Process: There's no change in the voting process for voters. EVMs with attached VVPAT units will continue to be used, ensuring transparency in the voting process.
- Percentage of VVPAT Count: The existing provision of counting VVPAT slips from five randomly selected constituencies remains unchanged.

What has changed:

The Supreme Court directed the Election Commission (EC) to adopt new procedures post-polls:

- Symbol Loading Units (SLUs) will now be sealed and stored for 45 days after the declaration of results. This ensures the integrity of the symbols loaded onto the VVPAT machines.
- Candidates can request verification of EVMs, specifically the burnt memory semi-controllers, in 5% of EVMs per Assembly segment of each Parliamentary constituency. This verification process involves a written request by the candidate and will be conducted by a team of engineers from the EVM manufacturers.
- Candidate Verification of EVMs: Candidates coming second or third in the elections can request verification of EVMs within seven days of the declaration of results. They will bear the expenses, which will be refunded if tampering is found.
- Potential Use of Counting Machines for VVPAT Slips: The Supreme Court suggested that the EC could consider using counting machines for VVPAT slips instead of manual counting. This suggestion involves printing barcodes on the slips to facilitate machine counting. However, the Court refrained from making a definitive comment on this technical aspect, leaving it to the discretion of the EC.

2 INTERNATIONAL RELATIONS

1. SCO Startup Forum

Why is it in the news?

- The fourth edition of the Shanghai Cooperation Organisation (SCO) Startup Forum took place in New Delhi on March 19, 2024.

More about the news

- The objective of the forum is to enhance startup interactions among the SCO Member States, fostering innovation, creating employment opportunities, and encouraging young talent to develop innovative solutions.
- Organized by the Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry, the forum featured various initiatives aimed at promoting entrepreneurship and collaboration within the SCO region.

Key features of the forum

- **SCO Pavilion Showcase:** Over 15 SCO startups showcased their innovative products and services, facilitating networking and inspiration among entrepreneurs.
- All SCO Member States agreed to establish a Special Working Group (SWG) for Startups and Innovation at the SCO Heads of State Summit in 2022. The SWG aims to foster collaboration and regional economic development.
- India, as the permanent chair, led the adoption of SWG regulations and will host its second meeting in November 2024.

Startup India Initiatives

- Startup India organized several initiatives for SCO Member states, including the SCO Startup Forum 1.0, which took place in 2020 and aimed to establish a foundation for multilateral cooperation and engagement among SCO startups.
- The SCO Startup Forum 2.0, held virtually in 2021, featured a two day event with a customized platform representing Indian culture in augmented reality. Additionally, the SCO Startup Hub, serving as a single point of contact for the SCO startup ecosystem, was launched during this forum.
- In 2022, Startup India conducted a Focused Mentorship Program called 'Starting-Up' for nominated startups from SCO Member states. This virtual mentorship series lasted for three months and aimed to build capacity among SCO startup founders. Over 100 hours of mentorship were provided to the participating startups during this program.

2. Nikitin Seamount

Why is it in the news?

- India has recently applied to the International Seabed Authority (ISA) for exploration rights to two vast tracts in the Indian Ocean seabed.

More about the news

- India has applied for exploration rights to the AN Seamount as well as the Carlsberg Ridge in the Central Indian Ocean.
- The aim is to investigate polymetallic sulphides, which are reportedly rich in copper, zinc, gold, and silver.

About Nikitin Seamount (AN Seamount)

- The AN Seamount, also known as the Afanasy, is a cobalt-rich crust located in the Central Indian Basin. It spans approximately 400 km in length and 150 km in width.
- Situated around 3,000 km away from India's coast, it rises from an oceanic depth of about 4,800 meters to approximately 1,200 meters.

- Survey data from approximately two decades ago indicate rich deposits of cobalt, nickel, manganese, and copper.

Why India applied for exploration?

- India aims to tap into the tremendous potential reserves of the Indian Ocean.
- With increasing global demand for clean energy technologies, the extraction of critical minerals is projected to rise significantly. India seeks to secure these minerals, essential for meeting its renewable energy targets.
- India is motivated by concerns over China's dominance in the processing of critical minerals, aiming to reduce dependency on a single source. China currently controls 100% of the refined supply of natural graphite and dysprosium, 70% of cobalt and almost 60% of all processed lithium and manganese.

About the International Seabed Authority (ISA)

- ISA is an autonomous international organization established under the 1982 United Nations Convention on the Law of the Sea (UNCLOS) and its 1994 Agreement.
- It regulates the exploration and exploitation of marine non-living resources in international waters.
- ISA has 169 Members, including 168 Member States and the European Union, and is headquartered in Kingston, Jamaica.

India's Maritime Zone

- India's maritime zone includes territorial waters (up to 12 nautical miles), contiguous zone (up to 24 nautical miles), and an exclusive economic zone (up to 200 nautical miles).
- Beyond these zones lie the high seas, open to exploration with permission from the ISA.

3. India's External Affairs Minister visit to Malaysia

Why is it in the news?

- The External Affairs Minister of India recently visited Malaysia to bolster bilateral ties and discuss a wide range of cooperation areas.

Challenges

- **Trade Disputes and Imbalances:** Despite the overall positive trajectory of bilateral trade, issues related to tariffs, non tariff barriers, and trade restrictions have occasionally strained economic relations between India and Malaysia.
- **Geopolitical Considerations:** Both India and Malaysia have diverse foreign policy priorities and engagements with other nations, which can sometimes lead to differences in strategic perspectives and priorities.

Conclusion

- The visit of the External Affairs Minister underscores the enduring strength and resilience of India-Malaysia relations, which have stood the test of time and evolved into a multifaceted partnership covering various sectors. As both countries commemorate 65 years of modern diplomatic relations, there is a shared commitment to further deepen and diversify bilateral cooperation across political, economic, defense, cultural, and other domains.

India-Malaysia Relations	
Aspect	Details
Diplomatic Relations	• India and Malaysia have maintained diplomatic relations since Malaysia's independence from British rule in 1957. • Both countries are active members of various international organizations.
Trade and Economic Relations	• Malaysia is India's 13th largest trading partner. • The India-Malaysia Comprehensive Economic Co-operation Agreement (CECA) enhances economic cooperation. • Further, the Trade settlements conducted in Indian rupees.
Defense and Security	• Defense cooperation has grown steadily since the signing of a defense cooperation memorandum in 1993. • Joint military exercises and Malaysia's interest in Indian light fighter jets.
Strategic Partnership	• Transitioned from a Strategic Partnership to an Enhanced Strategic Partnership. • Cooperation includes defense, counter terrorism, maritime security, and cultural exchanges.
Tourism and Diaspora	• Tourism strengthens people-to-people ties. • Bilateral agreements facilitate tourism and cultural exchange. • Significant Indian diaspora in Malaysia strengthens historical and cultural bonds.
Cultural Ties	• Indian influence evident in language, religion, architecture, cuisine, and festivals in Malaysia. • Cultural affinity fosters mutual understanding and appreciation between the two nations.

4. India-led Group of Friends (GOF)

Why is it in the news?

- The India-led Group of Friends (GOF) is an initiative launched in 2022 during India's presidency of the UN Security Council (UNSC), aiming to strengthen legal frameworks against perpetrators of malicious acts targeting peacekeepers.

More about the news

- It represents the 'political will' of member states, particularly troop and police contributing countries, to champion the implementation of provisions of UNSC Resolution 2589.
- The GOF comprises 40 member states, with India, Bangladesh, Egypt, France, Morocco, and Nepal serving as co-chairs.
- Objectives and functions of the GOF include promoting accountability for all acts of violence against UN peacekeepers, providing capacity building and technical assistance to host state authorities, and serving as an informal platform at the UN for information exchange, sharing best practices, and resource mobilization.
- It monitors progress on bringing accountability for crimes against peacekeepers and convenes two member meetings annually, along with organizing one event per year involving Permanent Missions and other stakeholders to advance the plan and enhance safety and security for peacekeepers.
- India's role in UN peacekeeping is significant, with a history of being one of the largest contributors to UN peacekeeping operations since 1950, when it first committed troops in Korea.
- Indian troops have demonstrated professional excellence in supervising complex peace operations, with over 250,000 Indian troops serving in 49 of the 71 UN peacekeeping missions to date.

- Currently, India stands as the second largest troop contributor to UN peacekeeping, with 5,506 personnel deployed in nine missions, showcasing its continued commitment to global peace and security efforts.

5. BIMSTEC Charter

Why is it in the news?

- The Lower House of Nepal's Federal Parliament endorsed the Charter of the Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation (BIMSTEC).

More about the news

- The BIMSTEC Charter is a foundational document that delineates the goals, principles, and structure of the BIMSTEC group.
- It was signed and adopted in March 2022 during the 5th BIMSTEC Summit.
- The Charter specifies that it will come into force only after being endorsed by all member countries' respective parliaments.
- Apart from Nepal, the respective parliaments of other BIMSTEC member countries have already endorsed the charter.

BIMSTEC

Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation

↓

Member countries include India, Bangladesh, Bhutan, Myanmar, Nepal, Sri Lanka, and Thailand.

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BIMSTEC Charter

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The Lower House of Nepal's Federal Parliament endorsed the Charter

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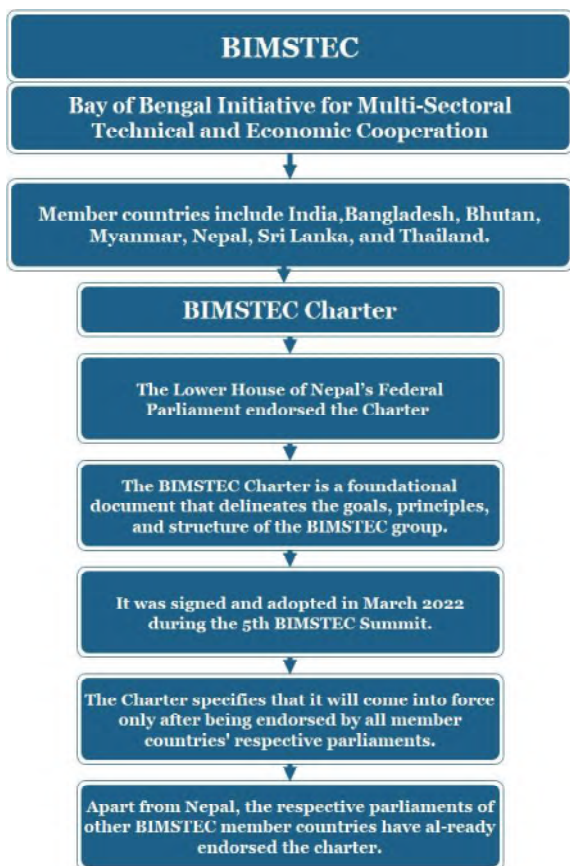
About BIMSTEC

- BIMSTEC, formed in 1997, aims to enhance regional cooperation on various issues including economic prosperity and social progress.
- Member countries of BIMSTEC include Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand.

6. Cyber Slavery

Why is it in the news?

- The Indian Embassy in Cambodia undertook a rescue mission over three months, successfully rescuing 75 Indians who were trapped in cyber slavery.

More about the news

- Cyber-slavery is a modern form of human trafficking that exploits individuals in the digital realm.
- Victims of cyber slavery are often lured with false promises of employment opportunities and are subsequently coerced into working as online scammers.
- This form of exploitation is emerging as a significant form of organized crime, characterized by its severity and scale.
- Efforts by diplomatic missions and law enforcement agencies are crucial in combating cyber slavery and rescuing victims from exploitation in the digital sphere.

7. 75 Years of Establishment of NATO

- In 2024, NATO celebrated its 75th anniversary since its establishment in 1949.

About NATO

- NATO, the North Atlantic Treaty Organization, established in 1949 with the signing of the North Atlantic Treaty, aims to ensure the security and defense of its member countries through collective defense.
- **Founding Members:** Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States. Article 5 of the North Atlantic Treaty emphasizes collective defense, considering an armed attack against one or more members as an attack against all.
- Decisions within NATO are based on consensus among member countries, with the North Atlantic Council as the principal political decision-making body.

- Currently consisting of 32 member countries, including recent additions like Sweden and Finland. Sweden and Finland applied to join in response to Russia's actions, with Finland joining in 2023 and Sweden in March 2024.
- After the collapse of the Soviet Union in 1991, many Eastern European countries joined.
- Membership expansion is the largest since the 1990s, adding significant troop numbers to the alliance.
- Countries like Ukraine, Bosnia and Herzegovina, and Georgia aspire to join NATO.

Concerns of NATO Expansion

- **Geopolitical Tensions:** Expanding NATO's borders may heighten tensions, particularly with neighbouring countries close to Russia.
- **Security Dilemma:** Expansion could trigger a security dilemma, leading to increased military tensions or arms races.
- **Strategic Interests:** Some question NATO's strategic interests and its focus on expanding rather than consolidating existing members.
- **European Security Architecture:** Expansion may hinder broader European security initiatives such as the Organization for Security and Co-operation in Europe (OSCE).
- **Potential for Conflict:** Expansion raises the risk of conflict, especially in regions with existing disputes.

Way Forward:

- Diplomacy, dialogue, and understanding of each other's security concerns are crucial for addressing challenges posed by NATO expansion.
- Further, balancing security interests with stability and peace in the Euro-Atlantic region is essential.

8. India & Mauritius signed a protocol amending the DTAA

Why is it in the news?

- India and Mauritius signed a protocol amending their Double Taxation Avoidance Agreement (DTAA), incorporating the Principal Purpose Test (PPT) to prevent tax evasion and avoidance.

More about the news :

- The PPT stipulates that tax benefits under the treaty won't apply if obtaining those benefits was the main purpose of any transaction or arrangement.

- This protocol aims to align the DTAA with Base Erosion and Profit Shifting (BEPS) Minimum Standards, which target tax avoidance strategies.
- The DTAA between India and Mauritius was initially signed in 1982 and amended in 2016, with the recent protocol further enhancing its effectiveness.
- DTAA facilitates cross border investment by reducing tax burdens on foreign investors and ensuring equitable tax allocation between source and residence countries.
- It provides legal certainty regarding the taxation of international income, promoting a stable environment for investment.
- **Common issues associated with DTAA include:**
    1) **Treaty Shopping**: Occurs when residents of a non-DTAA country exploit treaty provisions.
    2) **Double Non-Taxation:** Involves abusing DTAA to evade taxes in both countries involved.
    3) **Differential Interpretations:** Result in prolonged legal disputes due to varying understandings of tax treaty clauses.
- BEPS refers to tax planning strategies exploiting gaps in tax rules to shift profits to jurisdictions with lower tax rates. The Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEPS, which India signed in 2017, aims to update international tax rules to prevent multinational tax avoidance.

9. Sweden joins Artemis Accords

Why is it in the news?

- Sweden and Slovenia recently joined the Artemis Accords, becoming the 38th and 39th signatories respectively.

About Artemis Accords

- The Artemis Accords are a set of non legally binding principles and guidelines for international cooperation in space exploration, announced by NASA in 2020.
- Named after NASA's Artemis program, the accords aim to return humans to the Moon by the mid-2020s.
- They reflect principles outlined in the 1967 Outer Space Treaty, governing international cooperation in space.

- Key principles of the Artemis Accords include peaceful exploration, transparency, interoperability, emergency assistance, registration of space objects, heritage preservation, space resource utilization, deconfliction of activities, and orbital debris management.
- Signatories commit to conducting space activities for peaceful purposes, releasing scientific information publicly, developing interoperable systems, assisting personnel in distress, determining space object registration, preserving space heritage, utilizing space resources sustainably, avoiding harmful interference, and disposing of orbital debris safely.
- **Members:** Artemis Accords has 39 members including Australia, France, Germany, India (joined in 2023), Japan, United Kingdom, United States of America etc. Russia and China are not part of the Artemis Accords.

Significance of Artemis Accords for India :

- **Collaboration with NASA:** Participation in the Artemis Accords facilitates advanced training for ISRO astronauts by NASA, paving the way for joint efforts in space missions, including potential ventures to the International Space Station (ISS).
- **Global Space Power Vision:** India's involvement in the Artemis Accords is pivotal for its aspiration to establish itself as a significant global space power, enhancing its prestige and influence in the space community.
- **Space Exploration Ambitions:** The Artemis Accords support India's space exploration ambitions by fostering international collaboration, promoting the open sharing of scientific data, and encouraging mutual assistance among signatory nations.
- **Technology Transfer Opportunities:** Membership in the Artemis Accords could potentially alleviate technology transfer barriers between India and the US, facilitating the exchange of expertise and resources for mutual benefit.
- **Commitment to Global Space Cooperation:** India's participation in the Artemis Accords underscores its dedication to global space cooperation and its eagerness to engage in lunar exploration missions alongside other spacefaring nations.

- Knowledge and Expertise Sharing: Collaboration within the accords enables India to share and acquire knowledge and expertise, accelerating scientific research, technological innovation, and humanity's expansion into space.
- Enhanced International Cooperation: By joining the Artemis Accords, India signals its willingness to collaborate internationally and explore new frontiers in space, fostering partnerships and opening up opportunities for Indian companies in the global space market.
- The Artemis program comprises multiple missions aimed at returning humans to the Moon, with the ultimate goal of establishing a sustainable presence there.
- **Artemis-I (2022):** The first mission of the program involved launching NASA's spacecraft Orion using its indigenously built super heavylift launch vehicle (SLS) directly to the Moon on a single mission. This was an uncrewed mission.
- **Artemis-II:** The second mission, Artemis-II, will feature a crew of four astronauts aboard the SLS. They will perform multiple manoeuvres on an expanding orbit around the Earth.
- **Artemis-III:** The third mission, Artemis-III, involves a four-member crew landing on the Moon. During their week-long stay, they will conduct lunar exploration activities before performing a lunar flyby and returning to Earth.

10. UN Permanent Forum on Indigenous Issues (UNPFII)

Why is it in the news?
- The 23rd session of the UN Permanent Forum on Indigenous Issues began on April 15 in New York, emphasizing the urgency to expedite the recognition and safeguarding of Indigenous Territories (ITs) globally.

About UN Permanent Forum on Indigenous Issues (UNPFII)

- Formed on 28 July 2000.

Objective:
- One of three UN bodies dedicated to indigenous peoples' issues, alongside the Expert Mechanism on the Rights of Indigenous Peoples and the Special Rapporteur Rights of Indigenous Peoples.

- Focuses on providing expert advice and recommendations on indigenous issues to the United Nations Economic and Social Council (ECOSOC), UN programs, funds, and agencies.
- Aims to raise awareness and promote the integration of indigenous issues within the UN system.

Membership:
- Consists of 16 independent experts serving three-year terms.
- Eight members are nominated by member governments, and eight are directly nominated by indigenous organizations.
- Member countries include Finland, Nepal, Chad, Australia, Colombia, Bolivia, United States, Russia, China, Ecuador, Burundi, Denmark, Mexico, Namibia, Estonia, and one additional rotating seat.

Secretariat:
- Established by the General Assembly in 2002.
- Based in New York within the Division for Inclusive Social Development (DISD) of the UN Department of Economic and Social Affairs (DESA).

11. PM Modi visit to Bhutan

Why is it in the news?
- During his recent visit to Bhutan, PM Modi announced India's decision to double assistance to Bhutan, increasing it from 5,000 crore in 2019-2024 to 10,000 crore for the period till 2029.

Some of the key highlights of the visit :
- PM Modi was awarded Bhutan's highest civilian honour, the Order of the Druk Gyalpo, by the Bhutanese king.
- Several Memorandums of Understanding (MoUs) and agreements were signed between India and Bhutan covering various sectors including petroleum, trade, digital connectivity, space, and agriculture.
- Initiatives were taken to establish rail links between Kokrajhar-Gelephu and Banarhat-Samtse, as well as waterway navigation on the Brahmaputra River.
- **PM Modi expressed strong support for Bhutan's initiatives, particularly the Gelephu Mindfulness City project:**
  1) The Gelephu Mindfulness City (GMC) is a planned carbonneutral city spanning 1,000 square kilometres in Bhutan.
  2) GMC will focus on eco friendly industries such as IT, education, hotels, and hospitals.

Bilateral Meeting
- Prime Minister Narendra Modi met Prime Minister Tshering Tobgay of Bhutan in Thimphu, expressing gratitude for the warm public welcome extended during his journey from Paro to Thimphu.
- The leaders engaged in discussions covering various aspects of their bilateral relations, emphasizing cooperation in renewable energy, agriculture, youth exchange, environment and forestry, and tourism.
- India and Bhutan's long-standing relations were highlighted, characterized by utmost trust, goodwill, and mutual understanding across all levels.

Joint Vision Statement on India - Bhutan Energy Partnership
- India and Bhutan affirm their exemplary bilateral relationship marked by trust, goodwill, and mutual understanding at all levels, emphasizing strong bonds of friendship and people to people contacts.
- Both leaders recognize the significant contribution of clean energy partnership in Bhutan's hydro power sector development and regional energy security, highlighting Prime Minister Modi's appreciation for Bhutanese firms' capacity growth and Prime Minister Tobgay's recognition of India's renewable energy sector growth and leadership in initiatives like the International Solar Alliance and National Green Hydrogen Mission.Prime Ministers review successful joint energy projects, notably the Mangdechhu Hydro-electric Project, and anticipate commissioning the Punatsangchhu-II Hydro-electric Project this year, with positive expert level discussions on the Punatsangchhu-I HEP.

Agreed Points:
- Recognizing the potential of the India-Bhutan energy partnership to enhance energy security, strengthen economies, generate employment, increase export earnings, and further develop industrial and financial capacities.
- Identifying opportunities to strengthen bilateral clean energy partnership through new energy projects and electricity trade.
- Committing to developing new energy projects in hydropower, solar, and green hydrogen with Indian entities' participation as strategic partners.

- Agreeing to review and finalize project specific implementation modalities, including reservoir hydro projects.
- India to facilitate access to financing from Indian financial institutions and markets for power sale for new hydro power projects in Bhutan.
- Emphasizing the importance of power exchange for regional energy security and facilitating market access for Bhutanese power producers in accordance with regulations.
- Committing to regular consultations for enabling investments in Bhutan's energy projects and ensuring seamless cross border electricity trade.
- Working towards greater subregional energy cooperation for increased inter linkages between economies.
- Strengthening cooperation in energy efficiency and conservation through capacity development, information exchange, and research on energy-efficient technologies.
- Both leaders agree to expedite movement on projects and initiatives outlined in the Joint Vision Statement for mutual benefit.

No.	Agreement/MoU	Objective/Key Points
1	MoU on general supply of Petroleum, Oil, Lubricants (POL)	- Facilitation of supply of POL and related products from India to Bhutan. - Agreement on entry/exit points for the supply.
2	Agreement for recognition of official control exercised by Bhutan Food and Drug Authority (BFDA) by Food Safety and Standards Authority Of India (FSSAI)	- Recognizes BFDA's control by FSSAI to facilitate trade between India and Bhutan. - Promotes ease of doing business and reduces compliance costs.
3	MoU on cooperation in the field of Energy Efficiency and Energy Conservation measures	- Aims to enhance energy efficiency in Bhutan's household sector. - Includes promoting star labelling program and institutionalizing training of energy auditors.
4	MoU on cooperation in Sports and Youth	- Advances people to people linkages between India and Bhutan through sports activities/programmes. - Enhances cooperation between sports agencies of both countries.
5	MoU on cooperation concerning sharing reference standard, pharmacopoeia, vigilance and testing of medicinal products	- Enhances cooperation and exchange of information in regulation of medicines. - Acceptance of Indian Pharmacopoeia by Bhutan as a standard for medicines.
6	Joint Plan of Action (JPOA) on Space Cooperation	Provides a roadmap for space cooperation through exchange programs and training.
7	Renewal of MoU on Peering Arrangement between National Knowledge Network of India (NKN) and Druk Research and Education Network of Bhutan	- Renews the peering agreement to enhance digital connectivity between India and Bhutan. - Benefits scholars and research institutions of Bhutan.
8	MoU on Establishment of Rail Links between India and Bhutan	- Provides for establishment of proposed rail links including Kokrajhar-Gelephu and Banarhat-Samtse. - Defines implementation modalities.

3   ECONOMY

1. NABARD's Blended Fund for Agri-Tech Startups

Why is it in the news?

- NABARD is launching a Rs.1000 crore blended fund to support Agri-tech startups.

More about the news

- The fund aims to support technology driven agricultural startups and rural enterprises. It seeks to address the challenges faced by these startups in scaling up their operations due to limited access to equity and debt instruments.
- The fund will invest in startups that are actively involved in creating new forward and backward linkages in the rural ecosystem, thereby contributing to the overall development of the agricultural sector.

About Agri-tech Startups

- Agri-tech startups are individuals or segments of companies that leverage technology to enhance various aspects of agriculture, including productivity, efficiency, and output.

Services Provided by Agri-tech Startups:

- **Promotion of Smart Agriculture:** Agritech startups provide valuable information on crop yields, rainfall patterns, pest infestation, and soil nutrition through technology driven solutions.
- **Farming as a Service:** Some startups, such as EM3 Agri Services, offer farming services and machinery rentals to farmers on a pay for use basis, facilitating access to modern agricultural equipment and practices.
- **Big Data Analytics:** These startups develop farm-specific, data driven diagnostics using advanced technologies like Artificial Intelligence, enabling farmers to make informed decisions regarding soil and crop health management.

2. Bharat Startup Ecosystem Registry

Why is it in the news?

- The government plans to streamline investments into startups via the Bharat Startup Eco-system Registry.

More about the news

- It's part of the StartUp India program, aiming to support India's startup ecosystem stake-holders.
- Aims to attract investments from domestic and global players, ensuring transparency.
- Serves as a comprehensive database for various stakeholders like investors, incubators, academia, government bodies, mentors, and industry bodies.

Startup Ecosystem in India

- India is the 3rd largest startup ecosystem globally with over 1,12,718 Department for Promotion of Industry and Internal Trade (DPIIT)recognized startups across 763 districts (As of oct 3rd 2023).
- Ranks 2nd in innovation quality with strong positions in scientific publications and universities' quality.
- Over 1 lakh entities recognized as startups under Startup India initiative, with a significant portion having at least one-woman director.
- Emerging sectors like DeepTech, SpaceTech, AI, and EVs are expanding the startup landscape.
- Startups contribute to economic growth, employment generation, and community development, addressing sectors like healthcare and green mobility.

Initiatives to Support Startups :

- **Startup India Initiative (2016):** Launched in January 2016 to nurture innovation and encourage investments in India's startup ecosystem.

- **Access to Incentives:** DPIIT-recognized startups gain access to incentives under schemes like Fund of Funds for Startups (FFS), Startup India Seed Fund Scheme (SISFS), and Credit Guarantee Scheme for Startups (CGSS).

- **Startup India Seed Fund Scheme (SISFS):** Approved for four years from FY22 with an outlay of Rs.945 crore and aims to provide financial assistance to startups for various stages including proof of concept, prototype development, product trials, market entry, and commercialization.

- **Startup Mahakumbh:** Organized by the government to showcase India's startup potential and foster collaboration and growth within the ecosystem.

- **Government's Push Toward Green Mobility:** Creates opportunities for businesses in charging infrastructure, battery recycling, and energy storage solutions.

- **Startup20:** Introduction of Startup20 engagement group under India's G20 presidency which emphasizes the importance of startups in driving economic growth, innovation, and promoting the ecosystem globally.

- Finance Minister announced a Rs 1 lakh crore fund in the Interim Budget to provide longterm, lowcost, or zero-interest loans for research and development.

- Atal Innovation Mission and Production Linked Initiative schemes create an environment conducive to the success and growth of startups.

Challenges

- Regulatory hurdles and difficulties in obtaining approvals hinder startups.

- Infrastructure inadequacies pose challenges.

- Talent shortage is a major concern.

- Rural and social enterprises face investment challenges.

- In 2023, Indian startups faced significant challenges, raising only $8.3 billion, marking the lowest funding amount since 2016 despite an increase in the number of firms.

Conclusion

- Indian startups operate across various domains including health, climate tech, clean energy, and deep tech.

- Startups are well-positioned to capitalize on opportunities in sunrise sectors, driving rapid economic growth.

- Sunrise and sustainable startups have significant potential for impact and scalability, contributing to economic progress.

- While significant strides have been made, more efforts are required for India to become a global entrepreneurial hub.

- Incentivization schemes like Drone and Kisan Shakti should be expanded to include emerging technologies in other sectors, fostering innovation and growth.

3. Patents (Amendment) Rules, 2024 Notified

Why is it in the news?

- The Department for Promotion of Industry and Internal Trade (DPIIT) has notified the Patents (Amendment) Rules, 2024.

- The rules aim to streamline and simplify the process of obtaining and managing patents in accordance with the Patents Act, 1970, and to fulfil the goals of the Viksit Bharat Sankalp initiative.

Some of the Key Provisions

- **Introduction of 'Certificate of Inventorship':** This new provision acknowledges the contribution of inventors in patented inventions, providing recognition for their work.

- **Reduced Time Limit for Request for Examination:** The time limit for filing a request for examination of a patent application has been reduced from 48 months to 31 months from the date of filing or priority date.

- **Discount on Renewal Fee:** A 10% reduction in renewal fees is provided if paid in advance through electronic mode for a period of at least 4 years, incentivizing timely renewal and electronic payment methods.

- **Frequency of Filing Statements of Working:** The frequency of filing statements of working of patents has been reduced from once in a financial year to once in every three financial years, reducing administrative burden.

Supporting Initiatives for Promoting Patents :

- **National Intellectual Property Awareness Mission (NIPAM):** It aims to enhance awareness and understanding of intellectual property rights (IPR) among various stakeholders including inventors, entrepreneurs, students, and the general public.

- **Patent Facilitation Programme:** This initiative is designed to streamline the patenting process and provide support to inventors and innovators in securing patents for their inventions.

- **Scheme for Pedagogy & Research in IPRs for Holistic Education and Academia (SPRIHA):** It focuses on expanding knowledge capacity and skill-building in the field of intellectual property rights, particularly within educational institutions and academia.

- **Establishment of Centre of Excellence in Intellectual Property:** The Ministry of Electronics and Information Technology (MeitY) has set up a Centre of Excellence in Intellectual Property to serve as a hub for expertise and knowledge dissemination in the field of intellectual property.

- **Patent Analysis Management System (PAMS):** It is an initiative under MeitY aimed at improving the analysis and management of patents in India.

About Patents

- A patent is a statutory right granted by governments that provides exclusive rights to inventors over their inventions for a limited period, typically 20 years from the filing date.

- The invention must be novel, involving an inventive step, and capable of industrial application.

- It should not fall under the category of excluded subject matter, such as discoveries, scientific theories, mathematical methods, etc.

- India's involvement in international patent systems includes ratification of the Patent Cooperation Treaty (PCT), facilitating the filing of international patent applications.

- The Indian patent office has been actively granting patents, with over 1 lakh patents granted between March 2023 and March 2024, indicating the growing interest and innovation in the country.

4. Mutual Fund Stress Test

Why is it in the news?

- Mutual fund houses are releasing SEBI stress test reports indicating the number of days required to liquidate 50% and 25% of their mid and smallcap schemes portfolio.

More about the news

- Stress tests evaluate the time needed for investors to recover their investment amidst a downturn in the equity market and increased redemptions.

- Mutual fund companies conduct stress tests to assess liquidity in small and midcap portfolios, specifically focusing on the speed at which fund managers can sell stocks.

- The importance of stress tests lies in providing investors with insights into fund performance during adverse market conditions, enabling them to make more informed investment decisions.

- Understanding potential risks and vulnerabilities in a fund's portfolio allows investors to manage their expectations regarding potential losses during market downturns.

5. NHAI Completes Largest InvIT Monetization

Why is it in the news?

- NHAI's National Highways Infra Trust (NHIT) successfully completed fundraising through 'InvIT Round-3' for a total of 889 kilometres of National Highway stretches.

- This represents National Highway Authority of India's most extensive monetization endeavour to date, with a total valuation exceeding Rs. 16,000 crores.

NHAI InvITs

- NHAI's InvIT was established under the Indian Trusts Act, 1882 and SEBI regulations.

- In December 2019, the Cabinet approved NHAI's Infrastructure Investment Trust (InvIT), which was subsequently launched in 2021.

- NHAI's InvIT was introduced to facilitate the monetization of roads and attract both domestic and foreign institutional investors to invest in the roads sector, thereby mobilizing additional funds for infrastructure development.

About National Highways Infra Trust (NHIT)

- NHIT was established in 2021 as an Infrastructure Investment Trust sponsored by the National Highways Authority of India (NHAI).
- NHIT's primary objective is to engage in investment activities as an Infrastructure Investment Trust (InvIT).

Infrastructure Investment Trusts (InvITs)

- InvITs are financial instruments that operate similarly to mutual funds, pooling funds from multiple investors to invest in infrastructure assets that generate cash returns over time.
- InvITs are listed on exchanges through Initial Public Offerings (IPOs) and are subject to regulation by the Securities and Exchange Board of India (SEBI) under the Infrastructure Investment Trusts Regulations, 2014.

6. Price Stabilization Fund (PSF)

Why is it in the news?

- The government recently approved the inclusion of wheat and rice under its Price Stabilization Fund (PSF).

More about the news

- The PSF aims to regulate the price volatility of key agri-horticultural commodities such as onion, potatoes, pulses, wheat, and rice.
- It provides interest-free advances of working capital to Central Agencies, State/UT Governments, and other relevant agencies for conducting market intervention operations.
- The PSF facilitates domestic procurement from farmers and wholesale mandis to stabilize prices within a certain range.
- Import operations may be undertaken with support from the PSF when necessary to stabilize prices or address shortages of the selected commodities.

7. NITI Aayog's Report on Boosting Exports from MSMEs

Why is it in the news?

- NITI Aayog's report "Boosting Exports from MSMEs" outlines measures aimed at enhancing e-commerce exports from the MSME sector.

MSMEs and its Significance

- MSMEs (Micro, Small, and Medium Enterprises) are often hailed as the backbone of the Indian economy, contributing substantially to employment and GDP growth.
- They provide jobs to over 11 crore people and contribute around 27% to India's GDP.
- The sector comprises approximately 6.4 crore units, with 1.5 crore registered on the Udyam portal, making it the second-largest employer in India after agriculture.
- MSMEs play a pivotal role in manufacturing output, accounting for 38.4% of the total manufacturing output. They also significantly contribute to exports, contributing 45.03% to the country's total exports.

Challenges Faced by MSMEs in Exports

- MSMEs encounter numerous challenges when venturing into export markets, including difficulties in complying with regulatory requirements, achieving cost-effective production, managing logistics, and accessing finance.
- The cumbersome compliance process associated with exports, especially regarding payment reconciliation, poses a significant barrier for small and new exporters.

Recommendations to Boost MSME Exports

- **Create One-Stop Information Channel for Exporters:** Establish a comprehensive data intelligence portal utilizing AI to provide up-to-date and accurate information to MSMEs.
- **Create National Trade Network (NTN) as Comprehensive Trade Portal:** Develop an end-to-end national trade portal (NTN) to streamline export processes and provide seamless experiences for exporters, including query resolution and paperwork assistance.
- **Promote E-commerce Exports:** Address barriers hindering MSMEs' access to e-commerce markets, such as cumbersome compliance processes. Further, encourage e-commerce exports by simplifying payment reconciliation and other procedures.
- **Promote Ease of Merchandise Exports:**
  1) Target Ease of Doing Business initiatives specifically at MSME exporters.
  2) Offer temporary relaxations from certain compliance requirements and forgiveness for

errors as MSMEs familiarize themselves with export market demands.

3) Implement a time-bound disbursement process for incentives to prevent working capital blockage for MSMEs.

- **Improve Access to Export Finance:**
  1) Increase uptake of Export Credit Guarantee Corporation (ECGC) schemes by creating incentive packages to boost participation to 50% or more.
  2) Establish a single marketplace for export credit providers to compete for business, reducing costs for MSMEs.

- **Ensure Accurate Measurement:** Integrate Directorate General of Foreign Trade (DGFT) trade data with GST and income tax data using PAN numbers as identifiers to create a reliable depiction of MSME exports.

Conclusion:

- The potential for MSMEs to boost exports is substantial and can be realized through pragmatic measures that reduce the cost and friction of doing business for these firms.
- Implementing the recommendations outlined in the report could unlock significant growth opportunities for MSMEs and contribute to India's export competitiveness on the global stage.

8. Pakistan's 'Piracy' of Indian Basmati Rice Varieties

Why is it in the news?

- Indian Agricultural Research Institute (IARI) and exporters have raised concerns over the unauthorized cultivation of IARI's improved basmati rice varieties in Pakistan.
- Promotional activities by Pakistani seed firms, including YouTube videos, showcase the cultivation of recently-released IARI varieties in places like Multan, Bahawalnagar, and Hafizabad.

More about the news

- Basmati rice exports from India have been thriving despite a decline in overall agricultural exports.
- India anticipates reaching close to 50 lakh tonnes of basmati rice exports, valued at $5.5 billion, in the fiscal year ending March 2024.
- However, the alleged seed piracy and unlawful cultivation in Pakistan pose a significant threat to India's basmati rice varieties developed by IARI.

- These varieties cover nearly 89% of India's basmati cultivation area and have a substantial share in India's annual basmati exports.
- IARI varieties offer higher yields and shorter maturity periods compared to traditional basmati varieties. These varieties, known by the Pusa Basmati (PB) label, have dominated India's basmati exports due to their superior quality and yield.

Concerns for India:

- While Pakistan's basmati exports are comparatively lower than India's, the adoption of IARI varieties could pose challenges in the future.
- Pakistan's adoption of IARI varieties and parboiling technology may impact India's market leadership in certain regions.
- The cultivation of IARI varieties in Pakistan could undermine India's basmati export market and negatively impact farmers and exporters.

Measures to be taken:

- India should rigorously enforce legal frameworks such as the Protection of Plant Varieties and Farmers' Rights Act and the Seeds Act to address violations of intellectual property rights.
- Raising concerns about seed piracy and unauthorized cultivation in relevant bilateral forums and the World Trade Organization can serve as a deterrent.
- Basmati varieties developed by IARI are notified under the Seeds Act and can only be cultivated in officially demarcated Geographical Indication (GI) areas within India.
- India should ensure strict enforcement of GI protection to prevent the unauthorized cultivation of these varieties outside designated areas, safeguarding the integrity and exclusivity of Indian basmati.

9. Kisan Credit Card (KCC) Fisheries Scheme

Why is it in the news?

- The Department of Fisheries has integrated the Kisan Credit Card (KCC) Fisheries scheme into the JanSamarth Portal to enhance credit accessibility for fishers, fish farmers, and stakeholders nationwide.

- JanSamarth Portal is an innovative online platform facilitating direct linkage between lenders and beneficiaries, enabling citizens to access loans from 13 Central government schemes categorized across four loan categories efficiently.

About KCC Fisheries Scheme :

- Initiated in 2018-19, the KCC Fisheries Scheme extends the benefits of the Kisan Credit Card facility to fishers and fish farmers, specifically designed to cater to their working capital needs in the fisheries sector.

- Encompasses various categories of farmers engaged in fisheries, including individuals, joint borrowers, Joint Liability Groups, and Self-Help Groups, aiming to provide financial assistance and support for their operations.

- **Provides substantial subsidies to facilitate credit accessibility:** An annual interest subsidy of 2% to reduce the financial burden on borrowers; and an additional subsidy of 3% for timely re-payment, incentivizing responsible credit management.

About Kisan Credit Cards (KCC) Scheme

- Introduced in 1998 as a vital initiative to provide timely and adequate credit to farmers for various agricultural activities and allied purposes, following the recommendations of the R.V. Gupta committee.

- Aims to address the shortterm credit requirements of farmers comprehensively, covering expenses such as farming operations, post harvest costs, marketing, consumption, maintenance of farm assets, and investments in agricultural ventures.

- The scheme is facilitated by various financial institutions, including Commercial Banks, Regional Rural Banks (RRBs), Small Finance Banks, and Cooperatives, ensuring widespread coverage and accessibility.

Features:

- Provision of an ATM-enabled RuPay debit card for convenient access to funds.

- Streamlined processes and simplified documentation procedures to facilitate hassle free credit access.

- Government initiatives such as interest rate reductions and rewards for timely repayment to make agricultural loans more affordable and encourage responsible borrowing practices.

- Mandatory linking of Aadhaar to avail interest rate reductions, ensuring transparency and compliance.

- Initially focused on providing credit for farming activities, the scope of the scheme was expanded in 2004 to cover investment credit requirements beyond traditional farming practices.

- Further extended in 2018-19 to include fisheries and animal husbandry farmers, reflecting the government's commitment to diversifying and strengthening agricultural financing mechanisms.

10. Krishi Integrated Command and Control Centre (ICCC)

Why is it in the news?

- Union Agriculture Minister Arjun Munda inaugurated the Krishi Integrated Command and Control Centre (ICCC) in New Delhi's Krishi Bhavan.

- It serves as a comprehensive dashboard showcasing digital innovations in the agricultural sector, emphasizing technology's role in advancing farming practices.

More about the news

- The Krishi Integrated Command and Control Centre (ICCC) is a tech-based solution housed in the Ministry of Agriculture & Farmers' Welfare.

- The ICCC aims to monitor the farm sector comprehensively by integrating geospatial information from various sources such as remote sensing, soil surveys, weather data, and market intelligence.

- It facilitates quick and efficient decision making by providing integrated visualization of diverse agricultural data.

- Information is presented in map, timeline, and drill-down views, along with trends, outliers, and Key Performance Indicators (KPIs).

- **Farmer's Advisory:** Provides authentic advisories based on soil health, weather data, and crop suitability.
- **Drought Actions:** Correlates yield variations with weather conditions to facilitate proactive decision-making during droughts.
- **Crop Diversification:** Identifies regions suitable for diversified cropping based on analysis of crop diversification maps.
- **Farm Data Repository**: Krishi Decision Support System (K-DSS) acts as an agriculture data repository, aiding evidence-based decisionmaking and customized advisories.
- **Validation of Yield:** Compares yield data captured through Krishi MApper with that generated through the General Crop Estimation Survey (GCES) for plot validation.

11. Circular Economy in India's Solar Industry

Why is it in the news?

- The "Enabling a Circular Economy in India's Solar Industry: Assessing the Solar Waste Quantum" report is a collaboration between the Ministry of New and Renewable Energy (MNRE) and the Council on Energy, Environment, and Water (CEEW) under the NITI Aayog Action Plan for Circular Economy (CE) – Solar Panels.

More about the news

- India's solar industry, with an installed capacity of 66.7 GW as of FY23, has generated approximately 100 kilotons (kt) of waste, and this cumulative waste is projected to increase to 600 kt by 2030.
- Solar waste contains critical minerals such as silicon, copper, tellurium, and cadmium, the recycling of which could reduce import dependency. It also contains toxic metals like lead and cadmium, posing environmental and health risks, as well as economically valuable metals like silver and silicon.
- Recommendations include maintaining a comprehensive database of installed solar capacity to accurately map waste generation centres, urging

solar cell and module producers to develop waste collection and storage centres to comply with E-waste Management Rules 2022, and promoting safe recycling and recovery from solar waste.

Initiatives for Circular Economy in India's Solar Energy Sector

- Report on Circular Economy in Solar Panels to NITI Aayog
- Solar PV cells made part of Electronic Waste (Management) Rules 2022
- Solar PV recycling as priority thrust area under Renewable Energy Research and Technology Development (RE-RTD) Programme.

12. Alternative Investment Funds (AIFs)

Why is it in the news?

- The Reserve Bank of India (RBI) has introduced modifications to norms for regulated entities (REs) regarding their investments in Alternative Investment Funds (AIFs).

About AIFs

- AIFs refer to privately pooled investment funds, whether sourced from Indian or foreign origins, established as trusts, companies, bodies corporate, or Limited Liability Partnerships (LLPs).
- These funds operate as private entities not under the jurisdiction of any regulatory agency in India.

Need for Regulations:

- Concerns arose regarding lenders misusing the AIF route for "evergreening loans," a practice where new loans are extended to pay off old ones.
- This practice led to increased provisions by banks and Non-Banking Financial Companies (NBFCs), tightening capital flows for AIFs.

Regulations:

- REs are now required to set aside provisions only to the extent of their investment in the AIF scheme, which is subsequently invested by the AIFs in a debtor's company, rather than the entire investment in the AIF scheme.
- To ensure consistency in implementation among REs, downstream investments should exclude investments in equity shares of the debtor company of the RE. However, all other investments, including those in hybrid instruments, should be included in downstream investments.

13. India Gaming Report 2024

Why is it in the news?

- The India Gaming Report 2024 was released by the Interactive Entertainment and Innovation Council (IEIC) and WinZO.

Key Findings

- India boasts 568 million gamers, making it the largest gaming market globally, with every one in five online gamers hailing from the country.
- The Indian gaming market is anticipated to reach a valuation of $6 billion by 2028, indicating significant expansion potential.
- The number of Indian gaming companies has witnessed a remarkable surge, escalating from 25 in 2015 to over 1400 in 2023, underlining the sector's rapid evolution and expansion.

Factors Driving Growth

- **Technological Advancements:** The proliferation of affordable high-speed internet, priced at $0.17/GB, coupled with widespread smartphone penetration (820 million users), has fuelled accessibility and engagement in the gaming ecosystem.
- **Demographic Dividend:** India's sizable young population, estimated at 600 million, along with rising disposable incomes, has contributed significantly to the burgeoning gaming industry.
- **Global Investments:** Increased global investments in game development, along with the recognition and rewarding of gaming careers, have bolstered the industry's growth trajectory.
- **Cultural Adaptation:** The incorporation of vernacular language content and the gamification of Indian culture have enhanced user engagement and contributed to the sector's vibrancy.

Gaming's Societal Contributions

- Gaming platforms have played a pivotal role in reducing social isolation and fostering community building, particularly among women gamers.
- Gaming platforms have been leveraged to enhance research, education, and skill development initiatives, presenting innovative avenues for learning and growth.

Challenges Facing the Gaming Sector

- The emergence of sustainability issues stemming from "internet pollution," which contributes to approximately 3.7% of Greenhouse Gas emissions, poses a significant challenge.
- Financial literacy gaps, regulatory complexities, and data security challenges present obstacles to the sector's sustainable growth and development.

Recommendations

- Encourage the adoption of green innovations and virtual environments to mitigate the environmental impact of gaming activities.
- Establish a global gaming cluster with robust policy support mechanisms, aimed at nurturing startups and talent development within the sector.
- Prioritize research and development initiatives focused on enhancing online safety measures and promoting digital literacy among gaming enthusiasts.

14. A World Energy Transitions Outlook Brief

Why is it in the news?

- IRENA releases "A World Energy Transitions Outlook Brief: Tracking CoP 28 outcomes" report.

Key Findings

- In 2023, there was an addition of 473 GW of additional renewable energy to the global energy mix, with solar energy contributing 73% of this. Despite this progress, the annual addition needs to reach almost 1100 GW to meet the tripling target set for 2030.
- Asia emerged as the leader in renewable deployment, experiencing a growth rate of 20.1%. The growth in Asia was primarily driven by China's efforts in renewable energy deployment.
- The report highlights that road transport holds significant potential for electrification. Factors driving this progress include the introduction of new electric vehicle (EV) models, financial incentives, and improvements in charging infrastructure.
- The report identifies several challenges hindering the achievement of the tripling target, including rising financing costs and supply chain issues. Supply chain issues encompass bottlenecks for certain technologies and market oversupply for others, highlighting the need for a balanced approach to address these challenges.

Recommendations to Achieve Tripling Target

- **Reforming Multilateral Finance Mechanisms:** This involves revisiting and restructuring existing financial mechanisms to better support renewable energy projects.

- **Supporting Infrastructure Development:** Investment in infrastructure such as power grids and energy storage systems is crucial to facilitate the integration of renewable energy sources into the existing energy grid.

- **Implementing Robust Policy Frameworks:** Strong and comprehensive policy frame-works are needed to provide clear guidance and incentives for renewable energy adoption.

- **International Cooperation:** Collaboration on various fronts, including the development of renewable supply chains, enhancing institutional and human capacity, and scaling up access to low-cost finance, is essential for achieving the tripling target.

15. Green and Social Bond Impact Report 2023

Why is it in the news?

- The International Finance Corporation (IFC) recently released Green and Social Bond Impact Report 2023.

Key highlights of the report

- IFC launched the Green Bond Program in 2010 and the Social Bond Program in 2017.

- $2 billion was raised through Green bonds, expected to reduce 3.3 million metric tons of carbon dioxide equivalent per year.

- $1.2 billion was raised through Social bonds, targeting sectors like Agribusiness, Gender finance, and Education.

About Green Bonds

- Green Bonds are debt securities financing environment-friendly projects such as Sustainable Water and Waste Management, Green Buildings, and Pollution control.

- In 2022, India's Ministry of Finance approved India's First Sovereign Green Bonds (SGBs) Framework, excluding projects like nuclear power generation and landfill projects.

- Yes Bank Ltd issued India's First Green Bond in 2015.

- In 2023, India issued the first tranche of its first SGBs worth Rs. 80 billion.

About Social Bonds

- Social bonds are financial instruments issued by governments and corporations to fund projects addressing social issues like affordable housing and healthcare, benefiting vulnerable populations.

- In 2023, the National Bank for Agriculture and Rural Development (NABARD) raised more than Rs. 1000 crore via social bonds.

16. GRID-INDIA is now a Miniratna Company

Why is it in the news?

- GRID-INDIA, also known as Grid Controller of India Limited, has been conferred with the status of Miniratna Category-I Central Public Sector Enterprise (CPSE) by the Ministry of Power, Government of India.

More about the news

- Established in **2009**, GRID-INDIA is mandated with overseeing the seamless and uninterrupted operation of the Indian Power System, ensuring efficient transfer of electric power within and across regions, and facilitating transnational power exchanges with a focus on reliability, economy, and sustainability.

- Comprising five Regional Load Despatch Centres (RLDCs) and the National Load Despatch Centre (NLDC), GRID-INDIA manages the All-India synchronous grid, one of the world's largest and most intricate power systems.

- Over the years, GRID-INDIA's functions have evolved dynamically to address the integration of power systems, escalating energy demands, proliferation of Renewable Energy (RE) sources, economic growth, technological advancements, and evolving regulations and market dynamics.

17. FAO organizes closing ceremony of the International Year of Millets (IYM)

Why is it in the news?

- The **Food and Agriculture Organization (FAO)** organized the closing ceremony of the International Year of Millets (IYM), emphasizing the significance of millets in achieving sustainable development goals

and recognizing their emergence as a '**Global Superfood**.'

> • India proposed to the United Nations to declare 2023 as the International Year of Millets (IYM).

More about the news

- Millets, also known as "coarse cereals" or "cereals of the poor," are a group of nutritiously rich, drought-tolerant grains primarily grown in the arid and semi-arid regions of India.
- India is the largest producer of millets, followed by Niger and China.
- Millets are highly adaptive to a wide range of ecological conditions and have a low Glycemic Index (GI), making them beneficial in the prevention of diabetes.
- They are rich sources of minerals like iron, zinc, and calcium and are gluten-free.

India has initiated various measures to promote millets:

- Implementation of the Production Linked Incentive Scheme for Food Processing Industry for Millet-based products(PLISMBP) by the Ministry of Food Processing Industries (MoFPI) from 2022-23 to 2026-27.
- Millets are also included under the Poshan Abhiyan of the Ministry of Women and Child Development.
- An Export Promotion Forum dedicated to promoting millets in the international market has been established.

18. RBI @ 90

Why is it in the news?

- Prime Minister Narendra Modi and RBI Governor Shaktikanta Das commemorated the 90th anniversary of the RBI at a ceremony held in Mumbai.

Snapshots from history:

- The Reserve Bank of India (RBI) was established on April 1, 1935, with responsibilities including monetary stability, currency management, inflation targeting, and regulating the banking system.
- The first Governor of the RBI was Sir Osborne Arkell Smith, succeeded by Sir C D Deshmukh, the first Indian to hold the position.
- Over its 90 year history, the RBI has faced challenges such as the economic crisis of 1991, during which it transferred gold reserves to manage liquidity problems and devalued the rupee.
- Prime Ministers and Finance Ministers have sometimes clashed with RBI Governors over policy decisions, as seen in instances involving Manmohan Singh, Pranab Mukherjee, D Subbarao, Urjit Patel, and others.
- The RBI played a crucial role in steering India through the global financial crisis of 2008-09, with policies implemented by Governors like Y V Reddy, D Subbarao, and Raghuram Rajan.

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Despite facing various challenges, the RBI has remained steadfast in defending its autonomy and fulfilling its mandate of maintaining financial stability in India.

The pandemic also accelerated digitization of payments, with initiatives like the Unified Payments Interface (UPI) revolutionizing banking transactions.

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Under Governor Urjit Patel, the RBI introduced the Monetary Policy Committee (MPC) to decide on interest rates, initiated asset quality reviews, and utilized the Insolvency and Bank-ruptcy Code (IBC) to address corporate debt.

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- Despite facing various challenges, the RBI has remained steadfast in defending its autonomy and fulfilling its mandate of maintaining financial stability in India.

19. South Asia, India risk squandering demographic dividend: WB

Why is it in the news?
- The World Bank cautioned that South Asia, including India, is failing to capitalize on its demographic dividend due to sluggish job creation compared to the expanding working age population.
- Despite this warning, the World Bank projected a robust growth of 6.0-6.1% for the region in 2024-25, as per its South Asia regional update, "Jobs for Resilience."
- This demographic dividend refers to the economic growth potential that can result from shifts in a population's age structure, with a larger working age population relative to dependents.

Some of the key findings :
Employment Growth Trends:
- Despite a significant increase in the working-age population, job creation in South Asia has not kept pace. Specifically, India's employment growth has been sluggish, falling short of the average growth in its working-age population between 2000 and 2023.
- The employment ratio in India declined notably during this period, with the decline being second only to Nepal up until 2022. However, there's some preliminary data suggesting a rebound in 2023, albeit partially reversing the decline.

Economic Growth and Contribution:
- Despite the employment challenges, India's economy is expected to maintain robust growth, forecasted at 7.5% in FY23/24.
- This economic expansion, coupled with recoveries in Sri Lanka and Pakistan, has been a significant driver of the strong growth numbers for the South Asian region.

Potential Output Growth:
- The World Bank's analysis suggests that the region could achieve a 16% higher output growth if the share of its working-age population employed was comparable to other Emerging Market and Developing Economies (EMDEs).
- This highlights the missed opportunity in fully capitalizing on the demographic dividend.

Recommendations to Encourage Employment Growth
- Support the participation of women in the economy by addressing barriers to entry and providing opportunities for skill development and entrepreneurship.
- Increase access to finance for businesses, particularly small and medium enterprises (SMEs), to stimulate investment and job creation.
- Enhance openness to trade to promote economic growth and diversification, facilitating the expansion of businesses and the creation of employment opportunities.
- Ease financial sector regulations to encourage investment and entrepreneurship, fostering a more conducive environment for business growth and job creation.
- Improve the quality of education to ensure that the workforce is equipped with the necessary skills and knowledge to meet the demands of the labour market and drive productivity growth.

20. SCORES 2.0

Why is it in the news?
- Securities and Exchange Board of India (SEBI) has introduced an upgraded version called SCORES 2.0.

More about the news
- SCORES stands for SEBI Complaint Redressal System, an online platform for investors in the securities market

to lodge complaints. The initial version, SCORES, was launched in June 2011.

- SCORES 2.0 enhances efficiency through features like auto-routing, auto escalation, and monitoring by designated bodies, along with reducing complaint resolution timelines.

- It introduces two levels of review: the first review by the designated body and the second review by SEBI if the investor remains dissatisfied after the first review.

About SEBI:

- SEBI, established on April 12, 1992, is a statutory body governed by the Securities and Exchange Board of India Act, 1992.

- Before SEBI, the regulatory authority was the Controller of Capital Issues, operating under the Capital Issues (Control) Act, 1947.

- SEBI functions as a quasi-legislative and quasi-judicial body with powers to draft regulations, conduct inquiries, issue rulings, and impose penalties.

- SEBI's primary objective is to safeguard the interests of Indian investors in the securities market.

     With the Securities Laws (Amendment) Act, 2014, SEBI gained authority to regulate money pooling schemes worth Rs. 100 crore or more and to attach assets in cases of non-compliance.

21. India's Coal and Lignite Production hits all-time high

Why is it in the news?

- India's coal and lignite production has reached an all-time high of over 1 billion tonnes for the fiscal year 2023-24, marking a growth of more than 70% over the last decade due to favourable government support.

- The achievement holds significant implications for India's energy security, reducing dependence on imports, saving foreign exchange reserves, and achieving the target to replace coal imports for power generation by 2025-26.

More about the news:

- India possesses the 5th largest geological reserves of coal globally and is the 2nd largest consumer of coal worldwide.

- **Coal India Limited (CIL)** is the largest producer, accounting for over 70% of coal production in India.

- Import of coal remains significant, with India importing 217.75 million tonnes in FY 2023-24, primarily non-coking coal making up approximately 77% of total imports.

- Challenges faced by the coal sector include unseasonal rainfall in coal bearing areas, non-payment of dues by power sector consumers, labour disputes, land acquisition, environmental concerns, and issues with coal quality and mining techniques.

Key reforms in the coal sector	
Reforms in the Coal Sector	Description
Coal Mines Special Provisions Act, 2015	Aimed at ensuring transparent auction processes for coal mines.
Mines and Minerals (Development and Regulation) Amendment Act, 2021	Allows for composite Prospecting Licence-cum-Mining Lease (PL-cum-ML), simplifying the process for acquiring licenses and leases.
Cessation of the captive mining regime	Facilitates commercial mining and sale of excess production, moving away from the previous captive mining system.
Single window clearances	Introduced to streamline and expedite the operationalization of coal mines by addressing administrative hurdles.

22. Paradip Port

Why is it in the news?

- In FY 2023-2024, Paradip Port in Odisha surpassed Kandla to become the highest cargo handling major port in India.

About Paradip Port:

- Paradip Port is situated in the state of Odisha, India. It is located near the confluence of the **Mahanadi River and the Bay of Bengal**.
- It was the first major port commissioned on the East Coast of India after independence.
- The port is administered by a Board of Trustees set up by the Government of India.
- In 2020, the Union Cabinet approved the '**Deepening and Optimization of Inner Harbour Facilities including Development of Western Dock**' project, aims to enhance the port's infrastructure to handle cape size vessels.
- The Indian government has announced plans to develop Paradip Port, along with Deendayal Port and V.O. Chidambaranar (Tuticorin) Port, as Green Hydrogen hubs.

23. Paira Cropping System

Why is it in the news?

- This conservation agricultural practice in Odisha is dwindling in recent years.

About Paira Cropping System:

- A relay method of sowing short duration pulses/ oilseeds in the standing crop of rice, typically around 2 weeks before rice harvest.
- Originated in **Odisha** but also practiced in Bihar, Eastern Uttar Pradesh, West Bengal, Chattisgarh, and other similar agroclimatic regions.
- It does not allow interventions such as tillage, weeding, irrigation, or fertilizer application and relies on natural processes for crop growth.
- It maximizes land use efficiency by utilizing the same plot for multiple crops within a single growing season.
- It provides an opportunity for farmers to diversify income sources by cultivating pulses/oilseeds alongside rice, potentially increasing overall farm income.
- Reduces weed pressure as the standing rice crop acts as a natural weed suppressant, minimizing the need for manual weeding.

- Helps in enhancing soil fertility and structure due to reduced soil disturbance, promoting long-term sustainability.
- Improves water retention in the soil, reducing the need for additional irrigation and making it suitable for regions with water scarcity.
- **Challenges:** Facing decline in recent years due to various factors such as changing agricultural practices, market demands, and lack of support from government agencies.
- **Revival Strategies:** Efforts to revive and promote Paira cropping system may include awareness campaigns, research and development initiatives, training sessions, and policy interventions to ensure market access and fair prices.

24. Global Unicorn Index 2024

Why is it in the news?

- Hurun Research Institute released the "Global Unicorn Index 2024," ranking startups founded in the 2000s worldwide.

Key findings:

- In 2023, India had 67 unicorn startups, down from 68 in 2022, ranking third globally. The USA led with 703 unicorns, followed by China with 340.
- India lacks unicorns in the Aerospace or Space Tech sector, with unicorns defined as privately held, venturecapital backed startups reaching a value of $1 billion.

More about the news:

- The term "unicorn" was coined by venture capitalist Aileen Lee in 2013.
- Factors behind the decline of unicorns in India include a slowdown in the startup ecosystem due to insufficient investment and founders producing more offshore unicorns than within India.
- Lack of prudent steps to ensure business sustainability has led to uncontrolled growth, characterized by rapid depletion of cash reserves.
- Initiatives taken by India to promote startups include the Fund of Funds for Startups Scheme, income tax exemption for startups incorporated after April 1, 2016, and the National Startup Award to recognize and support startups.

- India has the world's third largest startup ecosystem, with 44 Indian startups achieving unicorn status in 2021.
- From 2015-2022, there was a 15 times increase in total funding for startups and a 9 times increase in the number of investors.

25. CDP-SURAKSHA

Why is it in the news?

- CDP-SURAKSHA is a digital platform introduced by the government to disburse subsidies to horticulture farmers under the Cluster Development Programme (CDP), aimed at promoting horticulture crops.
- The platform enables instant subsidy disbursal to farmers' bank accounts using e-RUPI vouchers from the National Payments Corporation of India (NPCI).

More about the news:

- CDP-SURAKSHA stands for "System for Unified Resource Allocation, Knowledge, and Secure Horticulture Assistance," and features database integration, UIDAI validation, e-RUPI integration, and geotagging capabilities.
- Farmers can access the platform to place orders for planting materials such as seeds and seedlings based on their requirements, and subsidies are automatically calculated and displayed.
- The e-RUPI voucher is generated once the farmer pays their share of the planting material cost, and the vendor receives it upon delivering the materials to the farmer.
- The platform streamlines the subsidy process, ensuring that vendors receive payments only after farmers verify the delivery of their orders through geo-tagged photos and videos.
- Around 8,400 farmers' details have been uploaded on the CDP-SURAKSHA platform, with participation from banks like HDFC Bank, ICICI Bank, SBI, and Bank of Baroda in generating e-RUPI vouchers for fund disbursement.
- The CDP aims to leverage horticulture clusters for integrated and market-led development, with 55 clusters identified so far and 12 selected for the pilot phase, covering an estimated 9 lakh hectares and 10 lakh farmers.

26. Financing for Sustainable Development Report 2024

Why is it in the news?

- United Nations Department of Economic and Social Affairs has released Financing for Sustainable Development Report 2024.

Key highlights

- Financing gap for developing countries estimated at $2.5 trillion to $4 trillion annually.
- Developing countries face significant disparities in access to long-term and contingency financing.
- Policy, regulatory, and tax frameworks not adequately aligned with Sustainable Development Goals (SDGs).
- Systemic risks such as the Covid-19 pandemic and increased frequency of disasters strain national financing frameworks. Average GDP growth rates in developing countries declined to just over 4% annually between 2021 and 2025.
- Median debt service burden for Least Developed Countries (LDCs) reached 12% in 2023.
- Other concerns include digitization-induced risks and rising geopolitical tensions.

Recommendations:

- Building tax capacity to enhance tax revenue for SDG delivery.
- International development cooperation to mobilize additional financial resources, such as a new approach to blended finance focused on sustainable trade and responsible business conduct.
- Intensified action to address debt challenges faced by developing countries.
- Enhancing coherence between trade, investment, and sustainable development.
- Funding for data and statistical systems to generate actionable insights for advancing SDGs.

27. Global Trade Outlook and Statistics Report

Why is it in the news?

- Global Trade Outlook and Statistics Report was released by World Trade Organisation.

More about the news:

- Preliminary signs of fragmentation in trade flows identified in the Global Trade Outlook and Statistics Report by the World Trade Organisation.

Fragmentation in goods trade:

- In 2023, intermediate goods trade decreased by 6%, while trade in non-intermediates remained flat.
- The share of Asian trading partners in China's total parts and accessories declined slightly from 62.8% in 2019 to 60.2%.
- Disruptions on major shipping routes, including the Panama Canal and Suez Canal, are testing the resilience of global trade.
- Panama Canal, handling 6% of global trade, is operating at partial capacity due to freshwater shortages.
- Suez Canal, responsible for about 12% of global trade, faces trade hindrances due to vessel attacks, leading to diversions of traffic and longer Asia-Europe journeys.

Fragmentation in services trade:

- Potential impact of data flow disruptions noted.
- Evidence of "friendshoring" observed in ICT services, with US imports from Asia (mainly India) dropping to 32.6% from 45.1%, while imports from North America increased.
- "Friendshoring" refers to a trade practice where a country's supply chain networks are focused on political and economic allies.

Inititives to boost global supply chain and trade:

- Supply Chain Resilience Initiative (SCRI) launched by India, Japan, and Australia.
- India-Middle East-Europe Economic Corridor aimed at connecting India to the Gulf and Gulf to Europe.
- Indo-Pacific Economic Framework for Prosperity (IPEF) established to enhance economic engagement among partner countries.

28. ADB projects India's GDP growth at 7% this year

Why is it in the news?

- The **Asian Development Bank (ADB)** has revised India's GDP growth forecast for the fiscal year 2024-25 to 7% from the previous estimate of 6.7%.
- This adjustment is attributed to strong investment, both from the public and private sectors, and an uptick in consumer demand.

More about the news:

- Robust growth is expected to be propelled by strong investment demand and gradual improvement in consumer demand. The momentum in manufacturing and services sectors is highlighted as key contributors to this growth.
- While the projected growth for 2024-25 is optimistic, it is noted to be lower than the 7.6% growth experienced in the 2022-23 fiscal year. The growth during that period was primarily driven by investment demand, as consumer demand remained subdued.

Projected slowdown

India's GDP growth is forecast by the Asian Development Bank to slow to 7% this year before improving to 7.2% in 2025-26
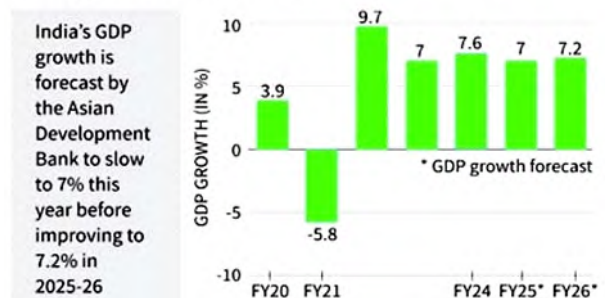
- The ADB anticipates a continued downward trend in inflation, aligning with global patterns.
- Exports are expected to remain relatively subdued in the current fiscal year due to slower growth in major advanced economies. However, improvement is forecasted for the subsequent fiscal year.
- The ADB expects monetary policy to remain supportive of growth as inflation decreases, while fiscal policy aims for consolidation but retains support for capital investment.
- The ADB suggests that India needs to enhance its integration into global value chains to boost exports in the medium term.
- The ADB's growth forecast for FY25 aligns with the projections made by the **Reserve Bank of India (RBI)**, which also estimated GDP growth at seven per cent for the current fiscal year.

29. Global Financial Stability Report 2024

Why is it in the news?

- Rising Cyber Threats pose serious concerns for Macro-Financial Stability, warns International Monetary Fund (IMF).

- The number of cyberattacks has nearly doubled since the COVID-19 pandemic, with financial firms accounting for nearly one-fifth of the total, particularly banks.

Causes of Rising Cyber Incidents in the Financial Sector:
- Increased digital financial services provide a target-rich environment for hackers.
- Insider threats, where authorized users misuse their privileges for monetary gain, are a significant concern.
- A cybersecurity skills gap leaves financial firms vulnerable to cyber threats.
- Geopolitical tensions, such as the surge in cyber-attacks following Russia's invasion of Ukraine, contribute to the threat landscape.

Impact of Cyber Attacks on Macro-financial Stability:
- Data breaches erode confidence in the viability of targeted institutions, leading to high deposit outflows.
- Cyber-attacks on payment networks can disrupt trading and online banking, undermining a country's financial stability.
- Cyber-attacks propagate rapidly within financial systems through linkages, affecting market stability.

Policy Recommendations:
- Strengthen reporting of cyber incidents by financial firms to supervisory agencies.
- Financial firms should develop and test response and recovery procedures to remain operational in the face of cyber incidents.

World Cybercrime Index

- Developed jointly by the University of Oxford and UNSW Canberra.
- India ranks 10th in cybercrime, with frauds involving advance fee payments being the most common type.
- Russia tops the list, followed by Ukraine and China.

30. Advance Pricing Agreements

Why is it in the news?
- The Central Board of Direct Taxes (CBDT) in India entered into a record 125 Advance Pricing Agreements (APAs) with Indian taxpayers during the financial year 2023-24.

- This marks the highest number of APA signings in any financial year since the launch of the APA program in 2012, indicating a growing trend in utilizing APAs for tax compliance.

More about the news
- In addition to the record number of APAs, the CBDT also signed the maximum number of Bi-lateral APAs (BAPAs) in any financial year to date during FY 2023-24.
- Bilateral APAs were signed as a consequence of entering into Mutual Agreements with India's treaty partners, including countries like Australia, Canada, Denmark, Japan, Singapore, the UK, and the US.

Advance Pricing Agreement (APA)
- An Advance Pricing Agreement (APA) is a formal arrangement between a tax authority and a multinational enterprise (MNE).
- Under an APA, the parties agree on the MNE's transfer pricing methodology, estimated taxable income, and tax payments for a fixed period. This reduces the likelihood of income tax disputes.
- The APA program provides tax certainty to multinational corporations (MNCs) by allowing them to negotiate how profit margins for their India operations will be calculated. This helps in addressing actual or potential disputes related to transfer pricing.

31. Report on strengthening the Bretton Woods Institutions (BWIs)

Why is it in the news?
- Bretton Woods Committee (BWC)'s "Strengthening the Bretton Woods Institutions (BWIs) to Meet 21st -Century Global Challenges" Report released.
- The report is the first from the Bretton Woods Committee's Multilateral Reform Working Group (MRWG), established to enhance the effectiveness of the multilateral system.
- **Bretton Woods Committee (BWC):** Founded in 1983, BWC is a non-profit organization dedicated to promoting effective global economic and financial cooperation.
- **Bretton Woods Institutions (BWIs):** Established in 1944 by 43 countries, the BWIs include the World

Bank and the International Monetary Fund (IMF). They were created to rebuild the post-war economy and foster international economic cooperation.

- Multilateralism, led by International Financial Institutions like the World Bank and IMF, has driven high growth and globalization, benefiting the global population.

Challenges Highlighted :

- Crises in the global commons have had profoundly negative effects on the world economy, undermining gains in health, education, and productivity.
- Progress in addressing these challenges has been slow due to the fragmentation of the global economy and increasing geopolitical tensions.

Global Commons :

- These are parts of the planet that fall outside national jurisdictions and are accessible to all nations.
- International law identifies four global commons: the High Seas, the Atmosphere, Antarctica, and Outer Space.

Recommendations for Strengthening BWIs

- Establish ministerial level Councils within BWIs to oversee issues related to global commons.
- Design instruments and institutional arrangements to finance initiatives aimed at addressing climate challenges.
- Expand climate linked financial instruments to support climate related projects.
- Establish a permanent mechanism to conduct systematic reviews of progress in global financing and implementation plans.

32. T+0 Settlement Cycle (or Same Day Settlement)

Why is it in the news?

- The Indian Stock Market recently transitioned from the T+1 settlement cycle to the T+0 settlement cycle, enabling same-day settlement of trades.

More about the news

- Under the T+0 system, shares are transferred to the buyer's account and funds are deposited in the seller's account on the same day of the trade.
- This settlement cycle will be optional for 25 stocks initially and will only be applicable for trades executed between 9:15 a.m. and 1:30 p.m.

- The implementation of the T+0 settlement cycle will occur in two phases.
  1) In the first phase, trades executed up to 1:30 p.m. must be settled by 4:30 p.m.
  2) In the second phase, trading time will be extended until 3:30 p.m., discontinuing the first phase.
- The T+0 settlement cycle is expected to benefit investors and traders by providing immediate liquidity, increasing trading opportunities, and reducing settlement risks.
- Currently, under the T+1 system, sellers receive only 80% of their cash on the day of sale, with the remaining 20% withheld until the following day. However, with the new T+0 settlement system, sellers will have immediate access to 100% of their cash on the day of the transaction.

33. Shrinkflation

Why is it in the news?

- As input prices rise, the Fast Moving Consumer Goods (FMCG) sector is encountering the phenomenon of shrinking product sizes, influencing consumer preferences and industry dynamics.
- Fast-moving consumer goods (FMCG), or consumer packaged goods, encompass items sold quickly at relatively low prices, including packaged foods, beverages, toiletries, candies, cosmetics, over-the-counter drugs, dry goods, and other non-durable household consumables.

Shrinkflation
About:

- Shrinkflation is a business strategy where companies reduce the size or quantity of a product while keeping its price unchanged.

Causes:

- Helps companies manage rising production costs, such as raw materials or labour, without sacrificing profitability.
- Companies may use shrinkflation to maintain their market share by keeping prices competitive.

Effects:

- Can lead to negative perceptions of the brand, loss of trust, and reduced customer loyalty if consumers notice the change.

- Complicates accurate measures of inflation as the price remains constant while the quantity decreases.

Limitations:
- Companies can only implement shrinkflation discreetly and for a limited number of times before consumers become aware and react negatively.
- Overuse of shrinkflation can damage brand reputation and consumer trust in the long term.

34. Special Rupee Vostro Account (SRVA)

Why is it in the news?
- India has streamlined the payment mechanism for traders importing pulses from Myanmar, mandating the use of the Rupee/Kyat direct payment system facilitated by the Special Rupee Vostro Account (SRVA) through Punjab National Bank.

About International Transactions Settlement Mechanism

Vostro Accounts:
- Named from the Latin word "vostro," meaning "yours."
- Represents a domestic bank's account held by a foreign bank in the local currency (e.g., INR in India).
- Allows foreign banks to manage local currency transactions on behalf of their clients.
- Example: A foreign bank holds an account in an Indian bank in Indian Rupees (INR) to facilitate transactions within India.

Nostro Accounts:
- Derived from the Latin word "nostro," meaning "ours."
- Refers to a foreign bank's account held by a domestic bank in the foreign currency (e.g., USD in the United States).
- Enables domestic banks to handle foreign currency transactions for their clients.
- Example: An Indian bank holds an account in a U.S. bank in U.S. Dollars (USD) to facilitate international transactions in the U.S. currency.

Loro Accounts:
- From the Italian word "loro," meaning "their."
- Represents an account held by one foreign bank in another foreign bank's currency.
- Facilitates interbank transactions between two foreign banks without converting currencies into a domestic currency.

- Example: A bank in India holds an account in a bank in the United States in USD (U.S. Dollars) to facilitate transactions between those two banks.

About Special Rupee Vostro Account (SRVA)
About:
- Domestic banks hold INR accounts for foreign banks, facilitating direct trade in rupees. It complements existing currency systems, enabling INR based settlements, reducing reliance on foreign currencies.
- Aims to elevate INR's global status and facilitate trade with sanctioned countries.

Framework Components:
- All exports and imports invoiced in INR.
- Exchange rate is market determined.
- Final trade settlements take place in INR.

Compliance:
- Enables advance payments for Indian exporters, complying with FEMA, 1999.
- Correspondent bank should not be from a country mentioned in the updated FATF Public Statement on High Risk & Non-Cooperative jurisdictions.

Purpose of the Arrangement:
- Aims to reduce demand for foreign currencies by increasing the use of INR in trade transactions.
- Minimizes reliance on foreign exchange, thereby mitigating economic shocks.
- Aims to enhance INR's global acceptance and facilitate trade with sanctioned nations.

Differences between SRVA and Rupee Vostro Account
- SRVA settles international trade transactions directly in INR, while Rupee Vostro accounts operate through existing settlement mechanisms, which may involve foreign currencies. SRVA necessitates prior RBI approval for opening, unlike Rupee Vostro accounts, which do not require such authorization.
- SRVA conducts all import payments and export receipts in INR, whereas Rupee Vostro accounts may involve transactions in foreign currencies.
- SRVA must comply with FEMA regulations and correspondent bank criteria, while Rupee Vostro accounts may have different compliance requirements.
- SRVA aims to reduce reliance on foreign currencies and enhance INR's global acceptance, whereas Rupee Vostro accounts facilitate foreign banks' management of local currency transactions.

4 SCIENCE AND TECHNOLOGY

1. Hybrid Perovskites

Why is it in the news?

- A study led by Bharat Ratna Professor C N R Rao elucidates the atomic rearrangements within lead iodide perovskites under varying temperature and pressure conditions.

More about the news

- Hybrid perovskites are a novel class of semiconductors that merge the benefits of both organic (cost-effective, solution processable, flexible) and inorganic semiconductors (high performance, electrical conductivity).

- This specific type of hybrid perovskite comprises lead (Pb) and iodide (I) as essential components, exhibiting favourable optoelectrical properties.

- Lead iodide perovskites are recognized for their exceptional energy conversion efficiency, surpassing that of commercial silicon-based solar cells, making them promising materials for solar cell technology.

- Despite their advantageous properties, stability remains a significant concern with lead iodide perovskites. These materials can degrade over time, particularly when exposed to moisture or heat, due to the toxic nature of lead.

- Lead iodide perovskites find applications in various fields, including solar cells, light-emitting diodes (LEDs), X-ray shielding, and energy storage systems, showcasing their versatility and potential for diverse technological advancements.

2. IceCube Neutrino Observatory

Why is it in the news?

- Scientists at the IceCube Neutrino Observatory in Antarctica have detected seven potential astrophysical tau neutrinos that passed through Earth.

- Astrophysical neutrinos are high-energy particles originating from the farthest reaches of the universe, and their undisturbed travel over massive distances provides valuable insights into the evolution of the universe.

About Neutrinos

- Neutrinos are subatomic particles with intriguing properties.

- They possess no electrical charge and have a very small mass, possibly even zero.

- Despite being the most abundant particles in the universe, they interact very weakly with matter.

- Neutrinos travel at speeds close to that of light, making them incredibly challenging to detect. Hence, they are often referred to as "ghost particles."

- Neutrinos are produced through various natural processes, such as nuclear reactions in the Sun and particle decays within the Earth, as well as in man-made environments like particle accelerators and nuclear reactors.

About IceCube Neutrino Observatory

- The IceCube Neutrino Observatory is a groundbreaking scientific facility located near the Amundsen-Scott South Pole Station in Antarctica.

- It is the largest neutrino detector ever built, occupying a cubic kilometre of ice.

- The primary objective of IceCube is to observe neutrinos originating from the most violent astrophysical sources, such as supernovae and black holes.

- IceCube utilizes strings of digital optical modules (DOMs) embedded in the Antarctic ice to detect the elusive neutrinos.
- In 2013, IceCube made headlines by presenting the first evidence of high-energy astrophysical neutrinos originating from cosmic accelerators.

India-based Neutrino Observatory (INO) Project

- The India-based Neutrino Observatory (INO) Project is a significant endeavour aimed at advancing neutrino research.
- It involves the construction of an underground laboratory situated in Pottipuram, within the Bodi West hills of the Theni District in Tamil Nadu, India.
- The project is jointly funded by the Department of Atomic Energy and the Department of Science and Technology of the Indian government.
- Once completed, INO will provide a unique platform for studying neutrinos and advancing our understanding of fundamental particle physics.

3. Pushpak Reusable Landing Vehicle (RLV)

Why is it in the news?

- ISRO successfully conducted the Pushpak Reusable Landing Vehicle (RLV) LEX 02 Landing Experiment

More about the news :

- The Pushpak Reusable Landing Vehicle (RLV) LEX 02 Landing Experiment is the second in a series under the Reusable Launch Vehicle Technology Demonstration (RLV-TD) Programme.
- RLV LEX 02 revalidated indigenous technologies for high-speed autonomous landing of a space-returning vehicle, utilizing the winged body and flight systems from RLV LEX-01.

About RLV-TD :

- RLV-TD Programme aims to develop essential technologies for a fully reusable launch vehicle, enabling low-cost access to space.
- RLV is designed as a space plane with a low lift to drag ratio, capable of delivering payloads to low Earth orbits and returning to Earth for reuse.
- The vehicle is intended to become the first stage of India's reusable two-stage orbital launch vehicle.
- NASA has utilized RLV technology for some time, and private space agencies like SpaceX have demonstrated partially reusable launch systems.

- **Advantages:** Low cost, reliable, and offering on demand access to space.
- **Challenges:** Selection of materials such as special alloys, composites, and insulation materials, as well as the complex crafting of its parts, requiring highly skilled manpower.

4. Google DeepMind introduces SIMA

Why is it in the news?

- Google DeepMind introduces SIMA (Scalable Instructable Multiworld Agent), an AI gaming agent capable of following natural language instructions to perform tasks across various video game environments.

More about the news

- SIMA signifies a future where AI agents could play significant roles in gaming, as well as in real-world task collaborations with humans.
- SIMA is described as a generalist AI Agent, capable of understanding and executing instructions in diverse virtual environments, from exploring dungeons to constructing castles.
- It can accomplish tasks or overcome challenges assigned to it within the gaming environment, demonstrating adaptability and learning capabilities.
- SIMA processes human language commands and learns and adapts through interactions with users, improving its understanding and performance over time.

5. Statio Shiv Shakti

Why is it in the news?

- The landing site of Chandrayaan-3's moon lander Vikram has been named 'Statio Shiv Shakti' by the International Astronomical Union (IAU).
- The Chandrayaan-3 mission successfully landed on the lunar south pole on 23 August 2023.

More about the news

- The name originates from Indian mythology, symbolizing the masculine (Shiva) and feminine (Shakti) duality of nature.
- Planetary nomenclature is crucial for uniquely identifying features on planetary surfaces.
- The Gazetteer of Planetary Nomenclature is maintained by the Astrogeology Science Centre of the US Geological Survey on behalf of the IAU.

- The IAU is globally recognized for assigning nomenclature to planetary surface features.

6. EU Parliament Passes AI Regulation Act

Why is it in the news?

- The European Union Parliament has passed the groundbreaking AI Act, marking the first major legislative effort globally to regulate Artificial Intelligence.

More about the news

- The AI Act aims to safeguard fundamental rights, democracy, rule of law, and environmental sustainability, all while fostering innovation within the AI sector.

- It introduces a framework categorizing AI systems into four levels of risk:

  1) **Unacceptable Risk:** Any AI system posing a threat to EU Fundamental Rights falls under this category and is prohibited.

  2) **High-Risk:** AI systems with potential impacts on health, safety, and Fundamental Rights are subject to conformity assessments and ongoing monitoring.

  3) **Specific Transparency Risk:** AI systems with risks related to manipulation or impersonation must fulfil information, transparency obligations.

  4) **Minimal Risk:** Common AI systems such as spam filters are considered to have minimal risk and are not subject to specific regulations.

- General purpose AI models with systemic risks must assess and mitigate these risks, report serious incidents, and undergo state of the art tests.

- Real-time remote biometric identification in publicly accessible spaces, like facial recognition via CCTV, is prohibited with limited exceptions.

- Efforts to mitigate racial and gender biases in AI systems are mandated, requiring highrisk systems to be trained with adequately representative datasets to minimize biases.

Global Efforts to Regulate AI

Bletchley Declaration

Signed by 29 countries, including India and the EU, the Bletchley Declaration signifies in-ternational cooperation and commitment towards the responsible development and de-ployment of AI.

Global Partnership on AI (GPAI)

The establishment of GPAI represents a collaborative effort among nations to address chal-lenges and opportunities associated with AI development, ensuring it remains safe, secure, and trustworthy.

New Delhi Declaration

This declaration, among other global initiatives, aims to advance discussions and consensus on the ethical and regulatory frameworks surrounding AI.

Hiroshima AI Process (HAP)

Led by G7 nations, the HAP initiative seeks to regulate AI technologies and ensure their alignment with societal values and interests.

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- **Hiroshima AI Process (HAP):** Led by G7 nations, the HAP initiative seeks to regulate AI technologies and ensure their alignment with societal values and interests.

7. Resolution on AI Adoption by UNGA

Why is it in the news?

- The United Nations General Assembly (UNGA) adopted a landmark resolution on Artificial Intelligence (AI).

Some of the key highlights of the resolution

- The resolution on Artificial Intelligence (AI) was led by the United States and received substantial support from over 120 Member States, indicating broad international backing for the initiative.

- The primary objective of the resolution is to promote the development and adoption of safe, secure, and trustworthy AI systems globally.

- A key aspect of the resolution is to ensure equitable access to the benefits of AI technology. This involves addressing digital divides, particularly focusing on facilitating access to AI technologies and capabilities for developing countries.

- Member States are encouraged to collaborate with various stakeholders, including the private sector, civil society, and academia, to develop and support regulatory frameworks that govern the development and deployment of AI systems.

- The resolution recognizes the fundamental importance of data in the development and operation of AI systems.

- There is a strong emphasis on upholding human rights and fundamental freedoms throughout the life cycle of AI systems. This includes ensuring accountability, transparency, and fairness in AI decision making processes.

- The resolution encourages continued efforts by the international community to promote inclusive research, mapping, and analysis of potential AI applications.

- Another highlight of the resolution is the promotion of AI systems that advance, protect, and preserve linguistic and cultural diversity.

8. ISRO to conduct START Programme

Why is it in the news?

- Indian Space Research Organisation (ISRO) announces Space Science and Technology Awareness Training (START) - 2024.

More about the news

- START aims to attract undergraduate and postgraduate students to the fields of space science and technology by providing introductory-level online training.

- Scheduled during April-May 2024, the programme covers various domains of space science research including planetary science, astronomy, helio-physics, atmospheric science, and microgravity platforms.

- Post-graduate students and final year undergraduate students of physical sciences (Physics and Chemistry) and technology (e.g. Electronics, Computer Science, Mechanical, etc.) from educational institutes/Universities/Colleges within India are eligible to apply.

9. White Rabbit Collaboration

Why is it in the news?

- The European Organization for Nuclear Research (CERN) has launched the White Rabbit Collaboration, aimed at maintaining and advancing the White Rabbit technology.

More about the news :

- White Rabbit technology is developed to synchronize devices in accelerators down to sub-nanoseconds, overcoming the challenge of establishing a common notion of time across a network.

- It addresses the issue of potential delays caused by the time taken for light to travel through fiber-optic cables and the processing time of electronic signals.

- The technology has applications in various sectors, including finance and research infrastructures, and is being evaluated for potential use in the future quantum internet.

- White Rabbit could significantly impact the global landscape of time dissemination technologies, potentially reducing reliance on satellite-based systems.

- The White Rabbit Collaboration is a membership-based global community focused on maintaining a high-performance opensource technology and facilitating its uptake by industry.

- The collaboration provides dedicated support and training, fosters R&D projects between entities with common interests and complementary expertise, and establishes a testing ecosystem to build trust in products incorporating the opensource technology.

10) 125 years of Kodaikanal Solar Observatory

Why is it in the news?

- The Kodaikanal Solar Observatory (KoSO) celebrated its 125th anniversary.

More about the news:

- The observatory was conceived in response to the Great Drought of 1876, one of the worst droughts experienced by India.

- The drought, causing extensive famine and loss of life, prompted the British Raj to investigate the correlation between solar activity and seasonal rainfall distribution.

- Charles Michie Smith, a Professor of Physics at the Madras Christian College, was tasked with identifying an ideal site for the solar observatory.

- After extensive surveys, Kodaikanal in the Palani hills of Tamil Nadu was chosen as the optimal location due to favourable atmospheric conditions.

- The Government of India sanctioned the establishment of the Solar Physics Observatory in Kodaikanal in August 1893.

- Lord Wenlock, the then Governor of Madras, laid the foundation stone of the observatory in 1895.

- Systematic observations at KoSO began in 1901, focusing initially on solar physics and later expanding into other areas such as cosmic rays and radio astronomy.

- The observatory was merged with the Madras Observatory in 1899, consolidating resources and expertise.

- Today, KoSO is managed by the Indian Institute of Astrophysics and continues to play a crucial role in solar research, housing advanced instruments and a vast digital repository of solar images spanning over a century.

11. Genetic Profiling

Why is it in the news?

- The Wildlife Institute of India (WII) is employing genetic profiling to compile details about elephants into a national database, aiding in conservation efforts and wildlife management.

- WII, an autonomous institution under the Ministry of Environment, Forest and Climate Change, focuses on advancing wildlife research, education, and conservation within the country.

More about the news:

- The utilization of genetic profiling in wildlife conservation helps in understanding genetic diversity, population dynamics, and the overall health of species, aiding in effective conservation strategies.

- By analysing genetic profiles of elephants, conservationists can identify individuals, track movement patterns, assess genetic relatedness, and devise conservation measures tailored to specific populations.

- Genetic profiling offers valuable insights into the genetic makeup of wildlife populations, contributing to their preservation and long-term survival amidst environmental challenges and human activities.

About Genetic Profiling

- Genetic profiling involves gathering information about changes in specific genes, gene expression, or chromosomes within cells or tissues of an organism.

- It can indicate an individual's predisposition to certain diseases or conditions, as well as the likelihood of passing on these traits to offspring.

- The process is utilized in medical contexts for diagnosing diseases, planning treatment strategies, and monitoring treatment effectiveness.

- In forensic science, genetic profiling plays a crucial role in identifying individuals based on DNA evidence, commonly used in criminal investigations and paternity testing.

12. Study Finds Ozone on Jupiter's Moon Callisto

Why is it in the news?

- Scientists discovered evidence of ozone (O_3) on Jupiter's moon Callisto while investigating the chemical evolution of sulphur dioxide (SO_2) with ultraviolet (UV) irradiation.

About Callisto

- After Saturn, Jupiter has the most moons in the Solar System, with a total of 95 officially recognized moons.

- Callisto is one of Jupiter's largest moons and ranks as the third-largest moon in the Solar System, following Ganymede and Titan.

- Callisto's composition primarily consists of water ice, rocky materials, sulphur dioxide, and some organic compounds.

- The presence of these substances on Callisto makes it a potential candidate for supporting life in the Solar System beyond Earth, as water ice and organic compounds are essential building blocks for life as we know it.

- Callisto's surface is heavily cratered, indicating a long history of impacts from asteroids and comets.

13. PRATUSH Telescope

Why is it in the news?

- India's Pratyush Telescope is being considered for placement around the moon, as part of astronomers' efforts to expand observational capabilities beyond Earth's orbit.

- Astronomers aim to enhance their understanding of the universe by deploying high-resolution telescopes on the moon and in lunar orbit.

More about the news:

- PRATUSH (Probing ReionizATion of the Universe using Signal from Hydrogen) is a radio telescope intended to be situated on the moon's far side.

- The Raman Research Institute (RRI) in Bengaluru is spearheading the construction of PRATUSH in collaboration with the Indian Space Research Organisation (ISRO).

- Initially, ISRO plans to position PRATUSH into Earth's orbit for preliminary testing and calibration. Following this, the telescope will be launched towards the moon for its designated mission.

- Placing telescopes on the moon's far side offers advantages such as reduced interference from Earth's radio signals and clearer observations of distant celestial objects.

14. First Home Grown Gene Therapy for Cancer

Why is it in the news?

- India's first home grown gene therapy, CAR-T cell therapy (NexCAR19), for cancer was launched by the President of India at IIT Bombay.

More about the news:

- NexCAR19 is a therapy developed indigenously to target B-cell cancers, including leukaemia and lymphoma.

- The therapy is a result of collaborative efforts between ImmunoACT, a company incubated at the Indian Institute of Technology Bombay (IITB), and Tata Memorial Hospital.

About CAR-T Cell Therapy:

- T cells, which are part of the immune system responsible for fighting infections and cancers, can sometimes be evaded by cancer cells.

- CAR-T cell therapy, or Chimeric Antigen Receptor T-cell therapy, is a novel approach where a patient's own T cells are extracted and modified in the lab to recognize and target cancer cells.

- Modified T-cells, known as CAR-T cells, are then reintroduced into the patient's body, where they are capable of better identifying and attacking cancer cells.

CAR T-Cell Therapy
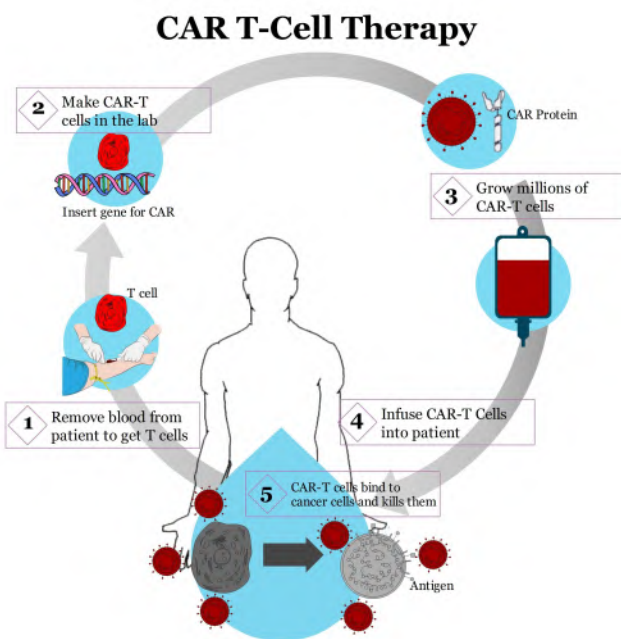
- This therapy represents a significant advancement in cancer treatment, offering personalized and targeted therapy options for patients with certain types of cancers, particularly B-cell malignancies.

B and T-Cells

- B-cells and T-cells are specific types of white blood cells known as lymphocytes, which play a crucial role in the body's immune response.

Types of T cells:

T-cells originate in the bone marrow, mature in the thymus gland, and then migrate to lymphatic tissues or the bloodstream to carry out their functions.

- **Cytotoxic T-cells:** These T-cells are responsible for directly killing cells infected with viruses and bacteria, as well as destroying tumour cells.

- **Helper T-cells:** Helper T-cells send signals to other immune cells, directing them to fight infections and coordinate immune responses.

- **Regulatory T-cells (Tregs):** Tregs are involved in suppressing excessive immune responses to prevent autoimmune reactions. They help maintain immune tolerance and prevent the immune system from attacking the body's own cells and tissues.

B-cells:

B-cells are lymphocytes that produce antibodies in response to antigens, which are substances that trigger an immune response. There are two main types of B-cells:

- **Plasma cells:** Plasma cells are responsible for producing antibodies that target specific antigens, aiding in the neutralization and elimination of pathogens.

- **Memory cells:** Memory B-cells are long-lived cells that "remember" past encounters with antigens, allowing for a quicker and more effective immune response upon subsequent exposure to the same antigen.

Both B-cells and T-cells are integral components of the immune system, working together to defend the body against infections, diseases, and foreign invaders.

15. Peter Higgs: Physicist behind Higgs Boson Particle

Why is it in the news?

- Peter Higgs, the Nobel prize-winning physicist, recently passed away.

More about the news:

- Born in England on May 29, 1929, Higgs proposed the existence of the Higgs boson in 1964, along with François Englert and four other theorists, to explain the origin of mass in certain particles.

- He postulated that there must be a subatomic particle, the Higgs boson, that imparts mass to other particles, thus contributing to the formation of stars, planets, and other celestial bodies.

- The existence of the Higgs boson was confirmed in 2012 through experiments conducted at the Large Hadron Collider (LHC) at CERN in Switzerland, specifically through the ATLAS and CMS experiments.

- Higgs' groundbreaking work helps scientists unravel one of the fundamental mysteries of the universe: how the Big Bang generated mass approximately 13.8 billion years ago.

- In recognition of his contributions, Peter Higgs was awarded the Nobel Prize in Physics in 2013, sharing the honour with François Englert, who independently developed a similar theory.

- According to modern physics, matter comprises particles acting as fundamental building blocks, with forces mediated by other particles.

- A crucial property of many particles is their mass, which is explained by the Higgs mechanism proposed by Higgs and his colleagues.

16. TSAT-1A

Why is it in the news?

- Tata Advanced Systems Ltd and Satellogic announced successful deployment of **TSAT-1A** into space.

More about the news:

- TSAT-1A, or Tata Satellite-1A, is India's first indigenously developed and built satellite, jointly developed by Tata Advanced Systems Ltd and Satellogic.

- It is equipped with sub-meter resolution optical imaging capabilities, allowing for highly detailed imaging of the Earth's surface.

- TSAT-1A features both multispectral and hyperspectral imaging capabilities, enabling it to collect data across a wide range of wavelengths within the electromagnetic spectrum.

- The satellite's advanced imaging technology provides deeper insights into land, water, and various natural resources, facilitating applications in crucial sectors such as Agriculture, Disaster Management, Urban Planning, and Environmental Monitoring.

17. Sustainable Hydrogel to Remove Microplastics

Why is it in the news?

- Researchers at Indian Institute of Science developed a sustainable hydrogel aimed at removing microplastics from water bodies.

More about the news:

- The hydrogel comprises three distinct polymer layers - chitosan, polyvinyl alcohol, and polyaniline - intricately intertwined to form an interpenetrating polymer network (IPN) architecture.

- Nanoclusters of a copper substitute polyoxometalate (Cu-POM) material are infused into the hydrogel matrix. These nanoclusters act as catalysts, facilitating the degradation of microplastics upon exposure to UV light irradiation.

- The combination of polymers and nanoclusters results in a robust hydrogel with dual capabilities of adsorbing and degrading significant quantities of microplastics present in water.

- The developed hydrogel demonstrates high efficiency, achieving removal rates of approximately 95% and 93% for two different types of microplastics, respectively, at near-neutral pH levels (~6.5).

- By effectively targeting microplastic pollution, the sustainable hydrogel offers potential benefits for mitigating the adverse environmental impacts associated with microplastic contamination in aquatic ecosystems.

18. World's First Orbiter that allows Smartphones to make direct Satellite Calls

Why is it in the news?

- Chinese scientists have developed the Tiantong-1 series of satellites, allowing smartphones to make direct satellite calls without ground-based infrastructure like cellular towers.

More about the news

- Tiantong-1 satellites are placed in geosynchronous orbit at approximately 36,000 km altitude, covering the entire Asia-Pacific region from the Middle East to the Pacific Ocean. Geosynchronous orbit enables an object to maintain pace with Earth's rotation.

- In September 2023, Huawei Technologies introduced the world's first smartphone supporting satellite calls by connecting directly to the Tiantong satellites.

Significance of Satellite Communication Technology (SCT):

- Facilitates seamless communication access in remote, rural, and hard to reach areas.

- Crucial for contingency planning during natural disasters or emergencies, providing reliable communication when terrestrial networks are disrupted. Military and defense applications include secure communication, navigation, surveillance, and intelligence gathering.

Concerns Associated with SCT

- Risks include space debris and orbital congestion, regulatory challenges, and international co-ordination and liability issues. Cyber threats such as jamming and spoofing pose additional concerns.

Satellite Communication Technology in India

- Under the Telecommunications Act of 2023, satellite communication companies can acquire spectrum for point-to-point communications without auctions.
- The Department of Telecommunication (DoT) issues Global Mobile Personal Communications by Satellite (GMPCS) Licenses for satellite telephony, with companies like Bharati Group and Reliance Group previously obtaining such licenses.

19. Space Debris

Why is it in the news?

- The annual meeting of Inter-Agency Space Debris Coordination Committee (IADC) held.India aims to achieve debris-free space missions by 2030, indicating a commitment to mitigating space debris.

About Space Debris

- Space debris refers to non-functional, artificial objects in Earth's orbit or re-entering Earth's atmosphere.

Need for Mitigating Space Debris:

- Debris collisions can disable operational spacecraft, causing damage to components like optics and solar panels. Uncontrolled debris growth can lead to an escalating cascade of collisions, known as the Kessler syndrome.Large space debris re entering the atmosphere can pose risks to the population on the ground.

Initiatives by ISRO:

- ISRO System for Safe and Sustainable Space Operations Management (IS4OM) provides efficient information on on-orbit collision and fragmentation.
- Project NETRA (Network for Space Objects Tracking and Analysis) establishes a space surveillance and tracking network with RADARS and Optical Telescopes.

Global Initiatives:

- **RE-MOVE DEBRIS:** Performs key active debris removal (ADR) technology demonstrations.
- UN Liability Convention (1972) and UN Registration Convention (1976) are the international agreements addressing liability for space object damage and registration of launched objects.

About IADC

- Established in 1993 as an international forum for space agencies, organizations, and governmental bodies.Facilitates exchange of information on space debris research activities, cooperation in debris research, and identification of mitigation options.
- Provides technical recommendations to the world space communities but is not a regulatory organization.
- Includes space agencies from 13 countries, such as India (ISRO), US (NASA), Russia, France, UK, EU, China, Germany, Japan, Canada, South Korea, Ukraine, and Italy.

20. Submersible Platform for Acoustic Characterisation and Evaluation (SPACE)

Why is it in the news?

- The state-of-the-art Submersible Platform for Acoustic Characterisation and Evaluation (SPACE) at the Underwater Acoustic Research Facility in Kerala inaugurated.

About SPACE

- Developed by the Naval Physical & Oceanographic Laboratory of DRDO.
- **Objective:** Premier testing and evaluation hub for sonar systems for the Indian Navy, to be used on ships, submarines, and helicopters.
- **Consists of two components:** A floating platform on the water surface; and a submersible platform, capable of being lowered to depths up to 100 meters using winch systems.

Applications:

- Evaluation of complete sonar systems for quick deployment and easy recovery of scientific packages like sensors and transducers.
- Suitable for surveying, sampling, and collecting data on air, surface, midwater, and reservoir floor parameters using modern scientific instrumentation.

5 ENVIRONMENT AND BIODIVERSITY

1. Centre notifies rules allowing transfer of 'Captive' elephant

Why is it in the news?

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has issued the Captive Elephant (Transfer or Transport) Rules, 2024, in exercise of powers conferred under the Wildlife (Protection) Act (WPA) 1972.

Some of the Key Highlights

- Application for the transfer of captive elephants must be made to the Deputy Conservator of Forests (DCF) with jurisdiction over the area where the elephant is registered.

Upon receipt of the application, the DCF is required to:

- Obtain a certificate from a veterinary practitioner.
- Conduct an inquiry and physical verification of the facility where the elephant is currently housed and proposed to be housed.
- Forward the application/report to the Chief Wildlife Warden (CWLW) within fifteen days.

> The Chief Wildlife Warden (CWLW) is the statutory authority, under the Wildlife Protection Act, who heads the Wildlife Wing of the department and exercises complete administrative control over Protected Areas (PAs) within a state.

For transfers within the state:

- After examining the report, the CWLW will permit or reject the transfer within seven days.

For transfers outside of states:

- The CWLW of the donor state will forward the application to the CWLW of the recipient state within fifteen days.

Terms and conditions for transfer include:

- The owner must no longer be able to maintain the elephant.
- No transfer is allowed unless the genetic profile of the animal has been entered into the electronic monitoring application of MoEFCC, etc.
- Elephant transfer must be completed within three months from the date of permission granted. Transport permits are valid for one month.

2. Air Quality Report 2023

Why is it in the news?

- The Air Quality Report 2023 has been published by the Swiss organization IQAir.

Some of the Key findings

- India ranked third for worst air quality, following Bangladesh and Pakistan.
- New Delhi has been designated as the world's most polluted capital city.
- Bihar's Begusarai has gained the title of the world's most polluted metropolitan area.
- Over 1 billion people in India are exposed to PM2.5 concentrations surpassing the WHO's recommended levels of 5 μg/m3.
- Only seven countries have met the WHO annual PM 2.5 guideline.
- French Polynesia is recognized as the least polluted region.

3. WMO: 2023, the hottest year on record

Why is it in the news?

- The World Meteorological Organisation (WMO) officially confirms 2023 as the hottest year on record.

More about the news

- Global average near surface temperature in 2023

was 1.45 degrees Celsius above the pre-industrial baseline, making it the warmest ten-year period on record.

- This temperature increase brings the world very close to the 1.5 degrees Celsius lower limit of the Paris Agreement on climate change.

- Around one-third of the global ocean experienced marine heatwaves in 2023, affecting ecosystems and food systems.

- Record ice loss was observed in global reference glaciers, particularly in western North America and Europe, while Antarctic Sea ice extent hit a record low.

- The warm temperature records were influenced by an ongoing El Nino event, associated with below normal monsoon rainfall in India and record-breaking heat in southern India.

- Increased adoption of renewable energy sources in 2023 showed a positive trend, with renewable capacity additions reaching 510 gigawatts, the highest rate observed in two decades.

4. Plastic Waste Management (Amendment) Rules, 2024 Notified

Why is it in the news?

- The Union Ministry of Environment, Forest and Climate Change has notified amendments to the Plastic Waste Management (PWM) Rules, 2016 under the Environment (Protection) Act, 1986.

- The amendments aim to enhance plastic waste management practices in the country.

More about the news

- Introduction of a new rule assigning responsibilities to Panchayats at the district level that include assessing the generation of plastic waste and evaluating the available waste management infrastructure.

- Producers, importers, and brand owners introducing plastic packaging into the market are now obligated to ensure the collection of such packaging. This includes fulfilling the requirements of Extended Producer Responsibility (EPR), which entails managing the product's environmental impact until the end of its life cycle.

- Manufacturers and importers of plastic raw materials are required to submit quarterly and annual reports online to the State Pollution Control Board (SPCB) or Pollution Control Committee (PCC).

- Urban local bodies and Panchayats at the district level are mandated to submit annual reports to Urban/ Rural Development Departments and SPCB/PCC.

- These reports will be audited by designated agencies to ensure compliance with plastic waste management regulations.

Other Initiatives to Address Plastic Pollution

- **Ban on Single use Plastics**: Effective from July 01, 2022, the government has imposed a ban on single use plastics to reduce plastic pollution and promote sustainable alternatives.

- **Swachh Bharat Mission:** The Swachh Bharat Mission focuses on various aspects of waste management, including source segregation, collection, transportation, and processing of plastic waste. It aims to achieve cleanliness and sustainability across urban and rural areas.

- **Waste to Wealth Mission:** The Waste to Wealth Mission aims to promote a circular economy in plastic and other urban waste management practices. It emphasizes recycling, reuse, and resource recovery to minimize waste generation and environmental impact.

5. WMO's State of the Global Climate 2023 Report

Why is it in the news?

- The World Meteorological Organization (WMO) has published the State of the Global Climate 2023 report.

- The report highlighted that 2023 broke records in various climate indicators such as green-house gases concentration, global temperatures, etc.

More about the news

State of Climate Finance:

- Climate finance nearly doubled compared to 2019-2020 levels, reaching $1.3 trillion.

- China, USA, Europe, Brazil, Japan, and India received 90% of the increase in funds.

Challenges in Climate Finance:

- The cost of inaction is projected to escalate without sufficient mitigation and adaptation strategies.

- Climate vulnerable countries and key sectors like agriculture and industry receive inadequate finance despite their potential for mitigation.
- Tracking adaptation actions of private sectors remains a challenge.

Recommendations:
- Transform the financial system by emphasizing concessional financing and de-risking, aligning climate and development needs.
- Mobilize domestic capital through enabling policies and regulatory frameworks.
- Improve availability and accessibility of high-quality, granular data for better measurement and management of progress.

Initiatives to Improve Climate Finance

- Adoption of the Global Climate Finance Framework during COP28 in Dubai.
- France's AFD 2050 Facility supporting approximately 30 developing countries in Paris Agreement implementation.
- Just Energy Transition Partnerships (JETPs) aiding developing countries in transitioning to a fair energy system.

6. SIDBI's Avaana Sustainability Fund (ASF)

Why is it in the news?
- SIDBI's Avaana Sustainability Fund (ASF) was approved by Green Climate Fund (GCF).

More about the news
- ASF marks the inaugural anchored fund of the Small Industries Development Bank of India (SIDBI), aiming to address climate change through sustainable investment strategies.
- ASF is structured as a venture capital fund with a primary goal to invest in early-stage climate technology companies, thereby fostering innovation and entrepreneurship in the climate sector.
- The fund's total corpus stands at a substantial $120 million, earmarked for deployment into promising ventures contributing to climate resilience and sustainability.
- It seeks to identify and support companies that demonstrate potential for significant environmental impact and sustainable growth, thereby driving positive change in the climate landscape.

7. Financing Agrochemical Reduction and Management (FARM) Programme

Why is it in the news?
- Global Environment Facility (GEF)-funded Financing Agrochemical Reduction and Management (FARM) Programme launched.

About FARM Programme
- FARM is a $379 million initiative aimed at reducing agrochemical usage and promoting sustainable alternatives in food production.
- It focuses on realigning financial incentives to prevent the use of harmful inputs and encourage the adoption of low and non-chemical alternatives.
- FARM supports government regulations to phase out persistent organic pollutants (POPs) in agrochemicals and agri-plastics and adopt better management standards.
- It strengthens banking, insurance, and investment criteria to improve the availability of effective pest control, production alternatives, and trade in sustainable produce.
- Member countries include India, Ecuador, Kenya, Lao PDR, the Philippines, Uruguay, and Vietnam.
- Implementing agencies include UNEP (United Nations Environment Programme), ADB (Asian Development Bank), UNDP (United Nations Development Programme), and UNIDO (United Nations Industrial Development Organization), with execution carried out incountry by FAO (Food and Agriculture Organization).
- The programme is set to run for five years.

Significance of FARM Initiative
- Aims to address the harmful impact of nearly 4 billion tons of pesticides and 12 billion kg of agricultural plastics used annually on health and the environment.
- Focuses on reducing the use of highly hazardous pesticides and managing agricultural plastics to prevent the release of toxic POPs, which contaminate air, water, and food.
- Addresses the current lack of incentives for farmers to adopt better practices due to the cheaper cost of harmful chemicals compared to sustainable alternatives.

- Headquartered in Washington, D.C., the GEF was established during the 1992 Rio Earth Summit.
- Serves as the financial mechanism for five international environmental conventions, including the Minamata Convention on Mercury, Stockholm Convention on POPs, UN Convention on Biological Diversity (UNCBD), UN Convention to Combat Desertification (UNCCD) and UN Framework Convention on Climate Change (UNFCCC).
- The World Bank serves as the trustee for the GEF, which has more than 180 member countries, including India.

8. SC's Consideration of Lifting Ban on Transmission Lines through GIB Habitats

Why is it in the news?

- The Supreme Court constituted an expert committee to examine the feasibility and extent of installing overhead and underground powerlines in Great Indian Bustard (GIB) habitats.
- The committee is chaired by the Director of the Wildlife Institute of India (WII), Dehradun, and is tasked with submitting its report to the Court by July 31, 2024.

More about the news

- In April 2021, the Supreme Court had ordered power companies in Rajasthan and Gujarat to underground high-tension power lines to prevent GIB fatalities.
- However, the Court is re-evaluating this directive due to concerns over the critical nature of GIB habitats and the difficulties associated with undergrounding power lines.

Reasons for Reconsideration

- Approximately 90% of GIB's habitat has disappeared, making the remaining areas critical for their conservation.
- GIBs have poor frontal vision and struggle to perceive overhead powerlines, resulting in fatal collisions.
- Undergrounding power lines pose significant fiscal burdens, estimated at around Rs.55,000 crore, and agricultural safety concerns due to potential cable punctures during farming activities.

9. UNESCO endorsed the addition of 18 new Geoparks to the Global Geoparks Network (GGN)

Why is it in the news?

- UNESCO has endorsed the addition of 18 new Geoparks to the Global Geoparks Network (GGN), bringing the total count to 213 Geoparks across 48 countries.
- Notably, there are currently no Geoparks in India.

More about the news

- Among the major additions to the GGN are noteworthy Geoparks such as the Land of Extinct Volcanoes in Poland, featuring remnants of Paleozoic and Cenozoic volcanoes;
- The Impact Crater Lake in Finland, Europe's largest impact crater lake formed through a meteorite collision 78 million years ago; and
- Uberaba in Brazil, renowned for its rich palaeontological heritage and tagged as the 'Land of the Giants'.

- The concept of Geoparks emerged in the mid-1990s, leading to the establishment of UNESCO's Global Geopark (UGGP) in 2015.
- UGGPs represent unified geographical areas managed with a holistic approach focusing on protection, education, and sustainable development.
- They are managed by bodies with legal recognition under national legislation, and their designation is subject to reassessment every four years, emphasizing the dynamic nature of their management.
- UGGPs play a crucial role in fostering local pride and strengthening identification with the region among the local population.
- They also serve as catalysts for generating new revenue streams through geo-tourism, contributing to sustainable economic development in their respective areas.

About Global Geoparks Network (GGN)

- GGN is a non-profit International Association officially established in 2014 under the auspices of UNESCO.
- It aims to promote the exchange of experiences and

cooperation among Geoparks world-wide, facilitating mutual learning and the advancement of geoscience education, conservation, and sustainable development.

10. World's first Nuclear Energy Summit

Why is it in the news?

- The world's first Nuclear Energy Summit was held in Brussels, jointly organized by the International Atomic Energy Agency (IAEA) and Belgium, aiming to promote nuclear energy.

More about the news:

- The summit was convened following the historic inclusion of nuclear energy in the Global Stocktake agreed at the UN Climate Change Conference (COP28), 2023, calling for accelerated deployment of nuclear energy to combat climate change.
- Nuclear energy currently accounts for approximately 25% of global low carbon electricity production, highlighting its significant role in mitigating carbon emissions.
- More than 30 nations, including India, and the European Union participated in the summit, emphasizing its global significance and widespread support.

About Global Stocktake

- The Global Stocktake (GST) is a periodic review mechanism established under the Paris Agreement in 2015.
- It occurs every five years, with the first-ever stocktake scheduled to conclude at the UN Climate Change Conference (COP28) by the end of 2023.
- The primary objectives of the stocktake are to assess individual countries' efforts in reducing Greenhouse Gas (GHG) emissions and transitioning to renewable energy sources.
- It is designed to keep countries accountable and encourage them to increase their climate ambitions over time.
- In the Paris Agreement, countries committed to keeping global temperatures from rising beyond 2 degrees Celsius by the end of the century, with efforts to limit it "as far as possible" below 1.5 degrees

Celsius. The stocktake serves as a means to periodically review these efforts.

- While countries have submitted their Nationally Determined Contributions (NDCs) outlining their climate targets, they are not obliged to increase their ambitions. However, the stocktake aims to push countries to set higher targets every five years.
- The latest NDCs were submitted in 2020, and the stocktake process aims to encourage countries to enhance their climate commitments before the next round of NDC submissions in 2025.

11. International Network for Terrestrial Research and Monitoring in the Arctic (INTERACT)

Why is it in the news?

- INTERACT research stations in the Arctic reported a loss of over 1,000 billion tonnes of ice in the last four decades, underscoring the alarming rate of ice depletion in the region.

More about the news:

- INTERACT is an **infrastructure project** aimed at studying environmental changes in the Arctic and surrounding regions, established under the auspices of SCANNET, an existing Arctic network.
- The network encompasses research stations across northern Europe, the US, Canada, Greenland, Iceland, the Faroe Islands, Scotland, and northern alpine areas.
- Its primary goal is to build capacity for research and monitoring in the Arctic, providing access to stations, resources, and expertise for scientists worldwide.
- INTERACT takes a multidisciplinary approach, covering fields such as glaciology, perma-frost, climate, ecology, biodiversity, and biogeochemical cycling.
- The infrastructure facilitates international collaboration, allowing scientists from around the world to work together on complex environmental issues.

12. Global Status Report for Buildings and Construction 2024

Why is it in the news?

- The **United Nations** Environment Programme (UNEP) released the Global Status Report for Buildings and Construction (Buildings-GSR) 2024, jointly published with the Global Alliance for Buildings and Construction (GlobalABC).

About GlobalABC

- Founded at COP21, it is a leading global platform for all built environment stakeholders committed to a common vision of achieving a zero-emission, efficient, and resilient buildings and construction sector.

Key findings of the Report:

- Building and Construction Sector (BCS) accounts for approximately 21% of global Greenhouse Gas (GHG) emissions.
- In 2022, buildings were responsible for 34% of global energy demand and 37% of energy and process-related carbon dioxide (CO_2) emissions. Notably, India attributes 40% of its CO_2 emissions to buildings.
- Urgent action is needed to decarbonize the BCS to limit global warming to 1.5°C (as per the Paris Agreement) and achieve net zero emissions by 2050, primarily by reducing embodied carbon in building materials.

13. Mumbai set to witness installation of artificial reefs

Why is it in the news?

- Mumbai is preparing to witness the installation of 210 artificial reefs, a first in the city's history. These reefs will be deployed in the Arabian Sea near Worli Koliwada.

More about the news:

- Artificial reefs are engineered structures designed to rehabilitate or enhance natural habitats. They are strategically placed on the seabed to mimic the characteristics of natural reefs.
- Materials used in constructing artificial reefs include rocks, cinder blocks, wood, old tires, limestone, steel, and concrete.

- The primary benefits of artificial reefs include marine habitat restoration and biodiversity enhancement. They provide firm substrates for corals, algae, plankton, etc., and serve as carbon sinks, aiding in nutrient recycling, water quality maintenance, and waste management.
- Artificial reefs also contribute to the development of fisheries by providing nursery grounds for fish, leading to increased catch rates and savings in fuel and energy costs. Additionally, they promote recreational fisheries such as snorkelling.
- Other advantages of artificial reefs include reducing wave damage on coasts, restricting bottom trawling, and promoting ecotourism.
- The initiative aligns with the Pradhan Mantri Matsya Sampada Yojana (PMMSY), a key government program aimed at enhancing fisheries and aquaculture in India. Under this scheme, artificial reef units are promoted for coastal states as a subactivity within the "Integrated Modern Coastal Fishing Villages" component.
- The implementation of the artificial reef project is supported by institutions such as the Fishery Survey of India and the ICAR-Central Marine Fisheries Research Institute.

14. 1MYAC (One Million Youth Actions Challenge)

Why is it in the news?

- The One Million Youth Actions Challenge (1MYAC) is promoted by the UN Climate Change Learning Partnership (UN CC:Learn).
- **UN CC**: Learn is a collaborative initiative consisting of 36 multilateral organizations working together to help countries build the knowledge and skills necessary to take action on climate change.

More about the news:

- 1MYAC aims to encourage youth aged 10 to 30 years old to take concrete actions for a more sustainable future. The initiative focuses on promoting four Sustainable Development Goals (SDGs), namely:
  1) **SDG 6**: Clean water and sanitation,
  2) **SDG 12**: Responsible consumption, production,
  3) **SDG 13**: Climate action,
  4) **SDG 15**: Life on land.

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SDG 6: Clean water and sanitation

SDG 12: Responsible consumption and production

SDG 15: Life on land

SDG 13: Climate action

1MYAC (One Million Youth Actions Challenge)

15. EU and India Launch EV Battery Recycling Initiative

Why is it in the news?

- The European Union (EU) and India launched an Expression of Interest (EOI) for Electric Vehicle (EV) Battery Recycling startups as part of the India-EU Trade and Technology Council (TTC) initiative.

More about the news:

- The TTC was first announced in 2022 by the European Commission and India, and was established in 2023 as a pivotal forum for deepening the strategic partnership on trade and technology.

- The aim of the India-EU initiative for EV startups is to foster cooperation between European and Indian Small and Mediumsized Enterprises (SMEs) and startups in the clean and green technology sector.

- EV battery recycling holds significant importance due to its ability to recover non-renewable materials like lithium, nickel, and zinc, thereby promoting environmental protection through waste minimization and reducing the cost of new batteries by promoting circular economy principles.

- India has set ambitious targets to achieve a battery recovery rate of 90% by 2026-27 under the Battery Waste Management Rules, 2022. The battery recycling market in India is expected to reach $300 billion during 2017-2030.

Issues and Concerns:

- Despite its importance, EV battery recycling in India faces several challenges, including the lack of battery disposal and recycling programs run by authorized agencies.

- Around 90% of used batteries in India are either processed by the unorganized sector or end up in landfills.

- Other challenges include the lack of standardized processes and infrastructure, the complexity of battery chemistry, which poses safety concerns, and the high recycling cost, which impacts the economic viability of recycling units.

India's initiative

India's Battery Waste Management (Amendment) Rules, 2023 :

- It introduced mandatory phased targets for the use of recycled materials in new battery products, aiming to reach 20% by 2030-31 for both portable and electric vehicle (EV) batteries.

- Additionally, the rules provide for transactable Extended Producer Responsibility (EPR) certificates, enabling producers to demonstrate environmentally sound management of waste batteries based on the weight of batteries processed.

16. Plastic Overshoot Day 2024 Report

Why is it in the news?

- Earth Action has released Plastic Overshoot Day 2024 report.

Key findings

- Plastic Overshoot Day for 2024 is projected to occur on September 5th, indicating that by that date, the world will have generated more plastic waste than it can manage effectively.

- The projected global plastic waste generation for 2024 is 220 million tonnes, marking a 7.11% increase since 2021.

- Twelve countries are responsible for 60% of the world's mismanaged plastic waste, with China, India, and Russia leading the list.

Specific to India:

- India is classified as one of the Low-Waste-Producing Polluters, yet its Mismanaged Waste Index (MWI) is very high at 68.62%.

- India's annual per capita plastic waste production stands at 8 kg per capita per year.

- India's amount of plastic waste exported is lower than what it imports.
- **Causes of Plastic Waste in India:** Improper disposal leading to the release of microplastics, and the use of additives in plastic production and processing.
- **Recommendations for India:** Develop local waste management infrastructure, invest in waste management policies such as Extended Producer Responsibility.

Initiatives to Reduce Plastic Waste

- The Plastic Waste Management Amendment Rules of 2022
- Project REPLAN (REducing PLAstic from Nature)
- The India Plastics Pact of 2021, and
- The National Circular Economy Roadmap for the reduction of plastic waste.

17. India's Heat Action Plans (HAPs)

Why is it in the news?

- Heat alerts from the IMD started in February, unusually early this year, with parts of the northeast and western India experiencing significantly warm temperatures.
- The IMD forecasts an increase in maximum temperatures and heatwave frequency in the upcoming days, particularly in eastern and southern India, prompting concerns about India's preparedness for this hazard.
- This early onset of heat alerts and predictions of heightened heatwave conditions underscore the need for proactive measures to mitigate the impact of extreme heat on vulnerable populations and infrastructure.

About Heatwaves and HAPs

- The India Meteorological Department (IMD) defines a heatwave based on maximum temperature thresholds, varying by region. In plains, it's 40°C or more; in coastal areas, 37°C or more; and in hills, 30°C or more.
- The severity of heatwaves is determined by the departure from normal temperature, with classifications like 'normal heatwave' and 'severe heatwave' based on departure levels.
- HAPs are prepared by governments at various levels to mitigate heatwave impacts. They aim to prepare

for, address, and recover from heatwaves through strategic measures.
- Collaboration between the National Disaster Management Authority (NDMA) and IMD with 23 states has led to the development of HAPs. These plans cover vulnerability assessments and response strategies.

Recommendations in HAPs

- Utilization of forecasts and early warning systems to alert the public and authorities about impending heatwaves.
- Public education campaigns to raise awareness about heatwave risks and preventive measures.
- Establishment of heat shelters, cooling centres, and provision of clean drinking water to mitigate heat-related health risks.
- Ensuring hospitals are well-equipped to handle a surge in patients with heat-related illnesses.
- Promotion of long-term measures such as urban planning for heat resilience, adoption of cool roofing technologies, and integration of nature-based solutions.

Challenges in Addressing Heat Action Plans (HAPs) Effectively

Local Context Considerations:

- Heatwaves need to be assessed at disaggregated levels such as states, districts, and cities to account for local variations.
- Factors like urban heat island effect, roofing materials, and proximity to water bodies impact local temperatures and must be considered.
- Development of a comprehensive heat index is necessary to include multiple factors beyond temperature.
- Tailoring heat action plans (HAPs) to specific climatic conditions, demographics, and infrastructure of regions can enhance their effectiveness.

Inconsistent Methods in Vulnerability Assessments:

- While vulnerability assessments are common in HAPs, methods are inconsistent across regions.
- Transition to robust climate risk assessments is needed to identify heatwave likelihood and assess exposure of people and assets.
- Hotspot mapping using geospatial data can prioritize interventions effectively based on vulnerability levels.

Addressing Vulnerable Populations:

- HAPs prioritize protection for vulnerable groups but lack targeted interventions considering local socio-economic factors.
- Formulation of strategies must acknowledge various socio-economic differences to effectively protect vulnerable communities.
- Targeted measures are crucial for informal workers, recognizing their high exposure to heat-related risks.

Resource Allocation Challenges:

- Implementation of HAPs varies based on local government priorities and available capacities, highlighting the need for dedicated budgets.
- Dialogue between government, civil society, and worker unions is essential to develop financial mechanisms ensuring protection for informal workers during heatwaves without income loss.

Integration for Enhanced Effectiveness:

- Integration of HAPs with broader urban resilience and climate adaptation plans can optimize resource pooling and enhance effectiveness.
- Integrated plans can facilitate improvements in data collection and monitoring systems, vital for assessing HAP effectiveness over time.

Focus on Nature-Based Solutions:

- Long-term measures in HAPs primarily focus on infrastructure development, with minimal attention to green and blue spaces.
- Incorporating nature-based solutions in HAPs is essential to effectively address extreme heat in hotspots and enhance overall resilience to heatwaves.

18. Invasive Alien Species

Why is it in the news?

- **Chital (spotted deer)**, native to mainland India, were introduced to the Andaman and Nicobar Islands by the British in the early 20th century.
- They have since become a threat to the islands' native flora and fauna due to their rapid spread.

About Invasive Alien Species:

- Defined by the Convention on Biological Diversity as species whose introduction and spread outside their natural distribution threaten biodiversity.

- Characteristics include the ability to arrive, survive, and thrive in new environments, often outcompeting native species for resources.
- In India, examples like the cotton mealy bug, an invasive species native to North America, have severely affected cotton crops in the Deccan region, leading to yield losses.
- Globally, the economic cost of Invasive Alien Species was over $423 billion annually in 2019.

19. Centre tweaks Green Credit Programme norms

Why is it in the news?

- The Union Environment Ministry has clarified that the priority should be given to restoring ecosystems rather than merely planting trees under the Green Credit Programme (GCP).

More about the news

- The GCP encourages organizations and individuals to invest in afforestation projects on degraded forest lands in exchange for 'green credits.'
- Forest departments of 13 states have offered 387 land parcels of degraded forest land for restoration, totalling nearly 10,983 hectares.
- Interested individuals and companies can apply to the Indian Council of Forestry Research and Education (ICFRE) to pay for the restoration of these forests. The actual afforestation will be carried out by state forest departments.
- After two years of planting, each tree can be worth one 'green credit,' evaluated by the ICFRE.
- Green credits can be used to comply with existing forest laws requiring organizations to recompense for forest land diversion or for reporting under environmental, social, and governance norms.
- The notified rules of the GCP suggest that green credits may be tradable in the future and can also be used to obtain carbon credits if they contribute to reducing or removing carbon emissions.
- The Environment Ministry has issued updated guidelines allowing states to determine the minimum tree density required for a reforested landscape, deviating from the previous minimum requirement of 1,100 trees per hectare. Preference will be given to

indigenous species, and naturally growing seedlings will be retained.

- Several public sector companies have registered to invest in the GCP, and their applications are under review.

- The programme is currently in a pilot project mode, with ongoing discussions regarding the quantification of shrubs and grasses in terms of green credits, as well as the equivalence of green credits and carbon credits.

20. 4th Global Mass Coral Bleaching Event

Why is it in the news?

- National Oceanic and Atmospheric Administration (NOAA)'s Coral Reef Watch (CRW) and the International Coral Reef Initiative (ICRI) have confirmed the occurrence of the 4th global mass coral bleaching event.

More about the news

- Mass bleaching has been observed in at least 53 countries, territories, and local economies, including Australia's Great Barrier Reef.

- This event marks the second such occurrence in the past 10 years, with the previous event lasting from 2014 to 2017.

About Coral Reef

- Corals are invertebrate animals classified as "hard coral" (reef-building) or "soft coral". They establish symbiotic relationships with microscopic algae called zooxanthellae.

- Coral reefs thrive in warm, salty, clear, shallow marine waters with stable temperatures and abundant sunlight.

- Often termed as the rainforests of the ocean, coral reefs support around 25% of marine life.

- They minimize storm impacts, promote tourism, and act as carbon sinks.

Coral Bleaching:

- When stressed by changes in conditions like temperature or light, corals expel symbiotic algae, causing them to turn completely white.

- Factors include increased ocean temperatures due to climate change, runoff and pollution, extreme low tides, and ocean acidification.

Measures for Coral Reef Conservation:

- **Global Initiatives:** Organizations like ICRI, Global Fund for Coral Reefs, Global Coral Reef Monitoring Network (GCRMN), and the Coral Triangle Initiative (CTI) work towards coral reef conservation.

- **Coral Triangle:** A marine area in the western Pacific Ocean encompassing Indonesia, Malaysia, Philippines, Papua New Guinea, Timor Leste, and the Solomon Islands.

- **India's Efforts:** Conservation efforts include Marine Protected Areas (MPAs), Integrated Coastal Zone Management (ICZM), and coral restoration through technologies like Biorock.

21. Fish Species spotted using tools

Why is it in the news?

- Three new fish species have been observed using tools in the Laccadive Sea.

More about the news

- Jansen's wrasse (Thalassoma jansenii) and the checkerboard wrasse (Halichoeres hortulanus) had not previously been observed using tools. This is the first documented instance of the moon wrasse (Thalassoma lunare) using tools in the wild. All three species utilize live or dead coral structures as anvils to break sea urchin shells to access edible parts.

- Instances of chimpanzees using straws for drawing water and crows fashioning leaves to extract insects from crevices are well known. However, reports of aquatic animals using tools are less common due to challenges in observation and the perception of fish as 'less intelligent'.
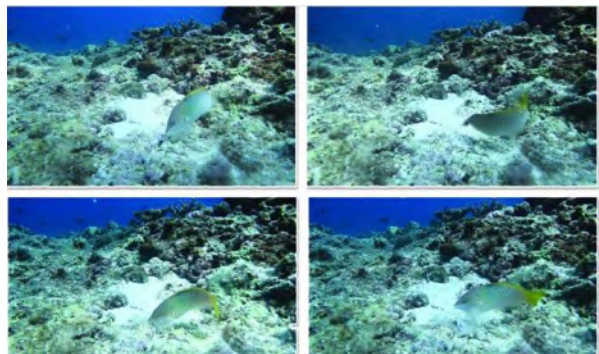
(Clockwise from top left) A checkerboard wrasse at Kavaratti Island, Lakshadweep, using the reef platform as an anvil to break the sea urchin's test and prey on it.

The Laccadive Sea

- The Laccadive Sea, also known as the Lakshadweep Sea, borders India, the Maldives, and Sri Lanka.

- Positioned southwest of Karnataka, west of Kerala, and south of Tamil Nadu.

- Characterized by stable water temperatures year-round and rich marine biodiversity.

22. Global Forest Watch (GFW)

Why is it in the news?

- India lost 2.33 million hectares (Mha) of tree cover since 2000, representing a 6% decrease in tree cover from 2001 to 2023.

More about the news

- Tree cover includes tree patches less than 1 hectare and isolated trees outside recorded forests, while forest cover is defined as areas more than 1 hectare with a tree canopy density of 10% and above.

- Five states - Assam, Mizoram, Arunachal Pradesh, Nagaland, and Manipur accounted for 60% of all tree cover loss between 2001 and 2023.

- From 2001 to 2022, a net carbon sink of 89.9 million tons was observed in India.

- Lakshadweep has the largest relative plantation area at 76%.

- Deforestation caused 3.3% of tree cover loss between 2001 and 2022.

- Climate change contributes to extreme heat, increasing wildfires, and subsequent loss of tree cover. The highest tree cover loss due to fires was observed in Odisha followed by Arunachal Pradesh from 2001 to 2022.

- India has implemented initiatives like the Green India Mission to increase forest/tree cover by 5 Mha and improve the quality of forest/tree cover on another 5 Mha of forest/non-forest lands.

- The Nagar Van Yojana aims to enhance green cover in urban and periurban areas.

Global Forest Watch (GFW)

- It was established by the World Resources Institute (WRI) in 1997 as an online platform providing data and tools for monitoring forests, offering near real-time information on forest changes globally.

23. Heavy Rainfall in Dubai, United Arab Emirates

Why is it in the news?

- The United Arab Emirates (UAE) experienced the heaviest rain ever after a severe thunderstorm hit the country, leading to disruptions in daily life, damage to property, and even casualties.

More about the news

- Heavy rains are unusual in the UAE, which is an arid, Arabian Peninsula country.

- The thunderstorms dumped more than 142 millimeters (mm) of rain onto Dubai in a short period. This amount of rainfall is significant, as it exceeds what the city typically receives in a year and a half.

- The heavy rains caused disruption to air travel, flooded homes, led to vehicle abandonment on roadways, and affected popular shopping centres like Dubai Mall and Mall of the Emirates.

- Schools were shut, and work-from-home orders were extended for government employees due to the adverse weather conditions.

Reasons for heavy rains

- The primary reason for the heavy rains was a storm system passing through the Arabian Peninsula and moving across the Gulf of Oman.

- Additionally, cloud seeding, a process of inducing rainfall by spraying salt mixtures into clouds, may have exacerbated the rainfall.

- However, some experts suggest that soaring global temperatures due to climate change could have contributed to the event.

- While it's challenging to attribute any specific extreme weather event solely to climate change, the increase in global temperatures, driven by greenhouse gas emissions, may have played a role in the intensity of the rainfall, including natural climate variability like El Niño and La Niña.

1. MHA Digital Criminal Case Management System (CCMS) Platform

Why is it in the news?
- The Digital Criminal Case Management System (CCMS) platform was launched by the Ministry of Home Affairs (MHA).
- It was designed and developed by the National Investigation Agency (NIA).

More about the news
- It is user-friendly and easy-to-deploy browser-based software.
- It is customizable to meet the specific needs of State Police forces.

Significance of Digital CCMS
- Facilitates better coordination among NIA personnel in terrorism and organized crime cases, thereby enhancing justice delivery.
- Helps State Police forces organize, integrate, and digitalize data generated during investigations, including case documents, extracted data, collected evidence, and charge-sheets presented to court.
- Promotes stronger cooperation between central and state agencies, including Anti-Terror Squads of State Police.
- Standardizes investigations, streamlines compilation of terror-related data, and improves conviction rates in sensitive and complex cases nationwide.
- Aids in the preparedness of NIA and State Police forces to implement new Criminal laws such as Bharatiya Nyaya Sanhita, Bharatiya Nagarik Suraksha Sanhita, and Bharatiya Sakhsya Sanhita.

The MHA also launched Sankalan App
- It's a compendium of New Criminal Laws, by the National Crime Records Bureau (NCRB).

- Acts as a bridge between old and new criminal laws, facilitating navigation through the legal framework.
- Designed to work in offline mode and ensure availability in remote areas.

2. Mercenary Spyware

Why is it in the news?
- Apple has issued warnings to users in India and other countries regarding potential "mercenary spyware" attacks.

,About Mercenary Spyware:
- Mercenary spywares are designed to remotely infiltrate and compromise smartphones and other devices without the knowledge or consent of the users.
- They target specific individuals and can be used to monitor movements, communications, and steal private data.
- Some notable examples of mercenary spywares include Pegasus, FinSpy, and Galileo.

Spyware
- Spyware refers to malicious software or malware that is installed on a computing device without the end user's knowledge.
- Spyware monitors or steals sensitive information from the infected device.

3. Doxxing

Why is it in the news?
- In today's digital era, concerns about doxxing are escalating significantly due to the ease of accessing and disseminating personal information online, posing heightened risks to individuals' privacy and security.

More about the news

- Doxxing refers to the act of digitally publicizing a person's private details, including home addresses, phone numbers, email IDs, medical conditions, government documents, and live locations.

- Doxxing enables abusers and criminals, often located remotely, to target victims by exposing their private information online, making them vulnerable to various forms of exploitation.

- Private details obtained for doxxing are typically acquired through illegal means such as hacking or theft, violating the individual's privacy and security.

- Social media companies operating in India are subject to the country's IT Rules, which mandate them to take action against cybercrimes like doxxing.

- Filing a cybercrime complaint can prompt platforms to swiftly address instances of doxxing and take necessary measures to mitigate harm.

- Further, individuals can take proactive steps to protect themselves from doxxing, including safeguarding personal information online and being cautious about sharing sensitive details on public platforms.

4. 'Voluntary Code of Ethics' for Social Media Platform

Why is it in the news

- A social media platform recently agreed to take down posts and comply with the 'Voluntary Code of Ethics.'

About Voluntary Code of Ethics

- Initiative led by the Election Commission of India (ECI) and the Internet and Mobile Association of India (IAMAI). It aims to ensure free, fair, and ethical use of social media platforms during elections.

- The code voluntarily agreed upon by the participants comes into operation with immediate effect.

- Developed in 2019 due to increased social media usage by political parties.

- Includes provisions for education and communication campaigns to raise awareness about electoral laws.

Key Provisions of the Code:

- Social media platforms must implement policies for access to electoral information.

- Commitment to transparency in paid political ads, utilizing existing labels or disclosure technology.

- Platforms must process reported violations under Section 126 of the RP Act within three hours.

- ECI directs social media platforms to remove objectionable content during elections.

- Content removal aligns with various laws including the Model Code of Conduct, Representation of People's Act, and Indian Penal Code.

7 SOCIETY AND SOCIAL JUSTICE

1. Foundational Literacy and Numeracy Assessment Test (FLNAT)

Why is it in the news?

- The Department of School Education and Literacy (DoSEL), under the Ministry of Education, conducted the Foundational Literacy and Numeracy Assessment Test (FLNAT) across 23 states.

About FLNAT

- FLNAT is a nationwide assessment test conducted as part of the Understanding Lifelong Learning for All in Society (ULLAS) initiative.
- The test aims to evaluate the foundational literacy and numeracy skills of registered non-literate learners aged 15 and above.
- Conducted in the learners' regional language, aligning with the multilingual focus of the National Education Policy 2020.
- **Subjects Covered:** Reading, Writing, and Numeracy, each carrying 50 marks, totalling 150 marks.
- **Certification:** Successful candidates receive a certificate from the National Institute of Open Schooling (NIOS).
- In 2023, FLNAT was conducted twice, in March and September.

ULLAS Initiative

- Its aim is to revolutionize education and literacy by creating a learning ecosystem accessible to all individuals, addressing gaps in basic literacy and critical life skills.
- **Target:** Citizens aged 15 and above who missed the opportunity for formal schooling.
- **Curriculum:** Includes basic education, digital and financial literacy, and other essential life skills.

2. 3.5 people for every 1,000 engaged in forced labour: ILO study

Why is it in the news?

- A study by the International Labour Organization (ILO) found that forced labour generates illegal profits worth $36 billion annually, a 37% increase since 2014.

More about the news

- Traffickers and criminals are estimated to generate close to $10,000 per victim, up from $8,269 a decade ago.
- Total annual illegal profits from forced labour are highest in Europe and Central Asia, followed by Asia and the Pacific, the Americas, Africa, and the Arab States.
- Forced commercial sexual exploitation accounts for over two-thirds (73%) of total illegal profits, despite constituting only 27% of the total number of victims.
- Other sectors contributing to illegal profits from forced labour include industry, services, agriculture, and domestic work.
- The number of people engaged in forced labour increased by 2.7 million between 2016 and 2021, with 3.5 people for every 1,000 people in the world engaged in forced labour on any given day in 2021.
- The report stresses the need for investment in enforcement measures, strengthening legal frameworks, providing training for enforcement officials, extending labour inspection into high-risk sectors, and better coordination between labour and criminal law enforcement.
- Additionally, promoting fair recruitment processes and ensuring workers' freedom to associate and bargain collectively are highlighted as essential measures to address the root causes of forced labour and safeguard victims.

3. ILO Report: Profits and Poverty: The economics of forced labour

Why is it in the news?
- The International Labour Organization (ILO) released a report titled "Profits and Poverty: The economics of forced labour."

Key Findings

People engaged in forced labour
- In 2021, the number of individuals engaged in forced labour globally amounted to 27.6 million. This figure represents approximately 3.5 individuals for every thousand people across the world.

Illegal Profits
- Forced labour within the private economy yields staggering illegal profits amounting to US$236 billion annually.
- Over the period since 2014, the total amount of illegal profits derived from forced labour has surged by US$64 billion, marking a significant increase of 37%.
- On average, traffickers and criminals are now generating close to US$10,000 per victim, which demonstrates a notable escalation from the figure of US$8,269 (adjusted for inflation) recorded a decade ago.

Regional Distribution of Illegal Profits:
- The bulk of annual illegal profits from forced labour are concentrated in Europe and Central Asia, where the figure stands at a substantial US$84 billion.
- Following closely, Asia and the Pacific region contribute US$62 billion to this illicit economy.
- In the Americas, the annual illegal profits reach US$52 billion.
- Africa witnesses US$20 billion in annual illegal profits from forced labour.
- The Arab States region accounts for US$18 billion in illegal profits annually.

Sector-wise Breakdown of Illegal Profits:
- Forced commercial sexual exploitation emerges as the most lucrative sector, commanding more than two-thirds (73%) of the total illegal profits. However, this sector only accounts for 27% of the total number of victims subjected to privately imposed labour.
- The industry sector ranks second in terms of annual illegal profits, generating US$35 billion.
- Services follow closely behind, with US$20.8 billion in annual illegal profits.

- Agriculture contributes US$5.0 billion to the total illegal profits from forced labour.
- Domestic work, while the least profitable among the sectors, still yields a significant US$2.6 billion annually in illegal profits.

Concerns
- Forced labour victims endure various forms of coercion, with the deliberate withholding of wages being prevalent.
- This exploitation perpetuates cycles of poverty and exploitation, severely undermining human dignity.
- Many forced labour instances trace back to recruitment abuses and the significant role of unlawful fees as a source of illegal profit.

Suggestions
- Urgent international collaboration is imperative to combat forced labour, protect workers' rights, and uphold principles of fairness and equality.
- Recommendations include bolstering legal frameworks, training enforcement officials, and expanding labour inspections into high-risk sectors.
- Enhanced coordination between labour and criminal law enforcement is essential for effective action against forced labour.
- Enforcement efforts should prioritize addressing root causes and safeguarding victims in a comprehensive approach.
- Promoting fair recruitment processes is crucial in preventing exploitation and illegal profiting from forced labour.
- Guaranteeing workers' freedom to associate and collectively bargain is essential for resilience against the risks of forced labour and exploitation.

4. RPF and NCW to jointly combat human trafficking

Why is it in the news?
- The Railway Protection Force (RPF) and the National Commission for Women (NCW) signed a Memorandum of Understanding (MoU) to jointly combat human trafficking on the Indian Railway network.

About MoU Objectives
- Prevention and Rescue: Aims to prevent human trafficking and rescue trafficked women through collaborative efforts between NCW and RPF.

- **Training and Workshops for RPF Personnel:** Includes conducting workshops and training sessions to increase awareness and response to trafficking incidents among RPF personnel.
- **Awareness Campaigns:** Launching campaigns to educate frontline railway staff and the public about trafficking signs and effective reporting.

Other RPF Initiatives for Women's Security

- **Meri Saheli initiative:** Provides security to lady passengers in long-distance trains, particularly those traveling alone or vulnerable to crime.
- **Operation AAHT (Anti-Human Trafficking):** Involves deploying special teams on long-distance trains/routes to rescue victims, especially women and children, from traffickers.
- **Operation Matrishakti:** RPF personnel, especially female officers, assist pregnant women in labour during train journeys beyond their regular duties.
- *Operation Dignity:* Focuses on rescuing destitute, mentally unsound, and trafficked adults, helping them reunite with families or relocate to shelter homes with NGO collaboration.

5. India's HDI and GII Rankings

Why is it in the news?
- Recently, the India's HDI and GII ranking was published in the United Nations Development Program's report titled "Breaking the Gridlock: Reimagining Cooperation in a Polarized World".

Key Highlights of the Report
- India's ranking on the United Nations Human Development Index (HDI) improved by one position in 2022 to 134 out of 193 countries with a score of 0.644 compared to 135 out of 191 countries in 2021 (0.633).
- On the Gender Inequality Index (GII) 2022, India has been ranked at 108 out of 193 countries with a score of 0.437. Its rank was 122 out of 191 countries with a score of 0.490 in the GII-2021.
- However, the country also has one of the largest gender gaps in its labour force participation rate a 47.8 per cent difference between women (28.3 per cent) and men (76.1 per cent).
- The report revealed that while rich countries attained record human development, half of the poorest remain below their precrisis level of progress.

- In 2022, India saw improvements across all HDI indicators life expectancy, education, and gross national income (GNI) per capita and life expectancy rose from 67.2 to 67.7 years, expected years of schooling reached 12.6, mean years of schooling increased to 6.57 and GNI per capita saw an increase from USD 6,542 to USD 6,951.
- Moreover, India demonstrated progress in reducing gender inequality. The country's GII value of 0.437 is better than the global and South Asian averages, according to the report.
- India's performance in reproductive health is better than other countries in the medium human development group or South Asia. India's adolescent birth rate in 2022 was 16.3 (births per 1,000 women ages 15-19), an improvement from 17.1 in 2021.

6. Lancet: Total Fertility Rate (TFR) declines across the world

Why is it in the news?
- Lancet's 'Global Burden of Disease' study finds Total Fertility Rate(TFR) decline across the world since 1950.

Key Findings from study
- **Global TFR Decline:** The Total Fertility Rate (TFR) worldwide has more than halved from 4.84 in 1950 to 2.23 in 2021.
- **Projected TFR:** Projections estimate a further decline to 1.83 in 2050 and 1.59 in 2100 globally.
- Countries Below Replacement Rate: In 47 countries, fertility has been below the replacement rate from 1950 to 2021.
- **India's TFR:** India's TFR notably decreased from 6.8 in 1950 to 1.91 in 2021, with projections indicating further declines to 1.29 and 1.04 in 2050 and 2100, respectively.
- **Primary Drivers of Declining Fertility:** Improving access to modern contraceptives and female education are identified as two primary drivers of declining fertility rates.

Replacement Rate

- The replacement rate is the minimum rate necessary for the generational replacement of a population, assuming no migration.
- Generally accepted as a Total Fertility Rate (TFR) of at least 2.1.
- TFR represents the average number of children a woman would have in her childbearing years, typically considered to be ages 15-49.

Impact of Low Levels of Fertility :

- **Changes in Age Structure:** Low fertility rates result in a growing elderly population and a shrinking working age population, impacting labour force dynamics.
- **Strain on Healthcare and Social Systems:** This demographic shift may increase the burden on healthcare and social systems due to a larger elderly population.
- **Empowerment of Women:** Lower fertility rates can improve women's decision making power within households.

Policy Suggestions :

- **Pronatal Policies:** Implement policies such as child related cash transfers and tax incentives to encourage childbirth.
- **Access to Modern Contraceptives:** Ensure widespread access to modern contraceptives to empower individuals to make informed choices about family planning.
- **Expansion of Female Education:** Invest in expanding access to education for women, which correlates with lower fertility rates.
- **Investment in Social Security and Healthcare:** Strengthen social security programs and healthcare infrastructure to support aging populations and address associated challenges.

7. Resurgence of Mumps in Kerala

Why is it in the news?

- Mumps cases have surged in Kerala, alongside other states like Maharashtra, Telangana, and Andhra Pradesh.
- Initially reported in Malappuram and Kozhikode districts, the outbreak has spread to Palakkad and Thrissur, leading to major community outbreaks.

More about the news

- Mumps, typically affecting children and adolescents, presents with fever, headache, and painful swelling of the salivary glands. Complications such as meningoencephalitis, pancreatitis, and reproductive organ damage have been reported, raising public health concerns.
- Mumps vaccine is not part of the Universal Immunisation Programme (UIP) due to perceived low mortality and public health significance.

- However, lack of comprehensive data on disease incidence and long-term morbidity profile contributes to underestimation of mumps' impact.

Measures to be taken

- Public awareness and isolation of infected individuals are crucial for controlling transmission.
- Improving immunisation coverage, especially among unimmunised children and adolescents, is essential.
- Extended isolation periods and school closures during outbreaks are recommended to limit transmission.
- WHO recommends integrating mumps vaccination strategies with existing measles elimination and rubella control efforts.
- Indian Academy of Paediatrics (IAP) advocates for MMR vaccine inclusion in the UIP to enhance protection against mumps, measles, and rubella.

- Globally, two doses of MMR vaccine offer 70-95% protection against mumps.
- Kerala previously replaced the second dose of measles vaccine with MMR but shifted to MR vaccine following UIP changes.
- Kerala urges the Centre to replace MR vaccine with MMR vaccine in the UIP, addressing the mumps resurgence.

8. India achieves 16% decline in new TB cases since 2015

Why is it in the news?

- India has achieved a 16% decline in tuberculosis (TB) incidence and an 18% reduction in mortality due to TB since 2015.

More about the news

- The TB incidence rate in India decreased from 237 per lakh population in 2015 to 199 per lakh population in 2022, while the mortality rate dropped from 28 per lakh population in 2015 to 23 per lakh population in 2022.
- The India TB report 2024 released by the Union Health Ministry highlights the country's target to eliminate TB by 2025 and emphasizes efforts in early detection and treatment initiation, as well as community engagement initiatives.

- Notably, 32% of TB notifications in 2023 came from the private healthcare sector, indicating a 17% increase from the previous year.
- Overall, TB case notifications have improved by over 50% in the last nine years, with Uttar Pradesh and Bihar witnessing significant increases.
- The National Tuberculosis Elimination Programme (NTEP) has accelerated efforts towards TB elimination following the COVID-19 pandemic, guided by the National Strategic Plan (NSP) 2017-25.
- The NTEP continues to provide free diagnostic services, conducting approximately 1.89 crore sputum smear tests and 68.3 lakh nucleic acid amplification tests (NAAT) in 2023.
- Additionally, Direct Benefit Transfer (DBT) under the Nikshay Poshan Yojana offers financial support to TB patients, with around Rs.2,781 crore disbursed to approximately one crore beneficiaries.
- More than 1.5 lakh Nikshay Mitras have pledged to support persons affected by TB, reflecting community involvement in the fight against the disease.

9. U.N. Report: World wastes over one billion meals a day

Why is it in the news?
- The Food Waste Index Report 2024, jointly authored by the United Nations Environment Programme (UNEP) and WRAP (Waste and Resources Action Programme), a U.K.-based non-profit, reveals alarming statistics regarding global food waste.

Key findings of the report
- In 2022, over one billion meals were wasted daily worldwide, despite 783 million people facing hunger and a third of humanity experiencing food insecurity.
- The report indicates that 1.05 billion tonnes of food waste were generated in 2022, equating to 132 kilograms per capita and nearly one-fifth of all food available to consumers.
- Household waste accounted for 60% of total food waste, while food services were responsible for 28%, and retail contributed 12%.
- It emphasizes the need to enhance data infrastructure for tracking and monitoring food waste, particularly in low and middle-income countries lacking adequate systems to meet Sustainable Development Goal 12.3 of halving food waste by 2030.
- Only four G-20 countries (Australia, Japan, U.K., U.S.) and the European Union currently have suitable food waste estimates for tracking progress towards 2030 goals.
- Food waste is not solely a problem in rich countries, with average household waste levels showing minimal differences across income brackets. Hotter countries tend to generate more food waste per capita, potentially due to higher consumption of fresh foods and inadequate cold chains.
- The report highlights the significant environmental impact of food waste, contributing 8-10% of annual global greenhouse gas emissions and causing biodiversity loss equivalent to a third of the world's agricultural land.
- Rural areas generally waste less food compared to urban areas, often due to better utilization of food scraps for pets, livestock, and home composting.
- As of 2022, only 21 countries have incorporated food loss and waste reduction into their climate plans or Nationally Determined Contributions (NDCs), urging governments to integrate these strategies to raise climate ambition.
- Food waste is defined as food and associated inedible parts removed from the human food supply chain, while food loss refers to quantities exiting the post-harvest/slaughter production/supply chain up to the retail level.
- The Food Waste Index tracks global and national food waste generation at retail and consumer levels, with UNEP as its custodian.

10. WHO Coronavirus Network (CoViNet)

Why is it in the news?
- The World Health Organisation (WHO) recently launched 'CoViNet,' a global laboratory network dedicated to monitoring emerging coronaviruses.

More about the news
- CoViNet comprises 36 laboratories from 21 countries across all six WHO regions, with expertise in human, animal, and environmental coronavirus surveillance.

- Initially established during the early days of the COVID-19 pandemic, CoViNet expands on the WHO COVID-19 reference laboratory network and will now address a broader range of coronaviruses, including SARS-CoV-2, MERS-CoV, and potential new coronaviruses.

- The objectives of CoViNet include facilitating and coordinating global expertise and capacities for early and accurate detection, monitoring, and assessment of SARS-CoV-2, MERS-CoV, and novel coronaviruses.

- CoViNet aims to monitor the global circulation and evolution of these viruses, emphasizing the importance of a 'One Health' approach that considers the interconnectedness of human, animal, and environmental health.

- Additionally, CoViNet seeks to provide timely risk assessment for these viruses to inform WHO policy related to various public health and medical countermeasures, ensuring effective response strategies are implemented worldwide.

11. Antiretroviral Therapy (ART) Initiative

Why is it in the news?
- Free Antiretroviral Therapy (ART) initiative celebrated twenty years of providing free treatment to Persons Living with HIV (PLHIV).

More about the news:
- The Free Antiretroviral Therapy (ART) initiative for Persons Living with HIV (PLHIV) began on April 1, 2004.

- ART involves the treatment of HIV-infected individuals using anti-HIV drugs, typically a combination known as highly active antiretroviral therapy (HAART) that suppresses HIV replication.

- The initiative was launched due to the emergence of HIV/AIDS in the early 1980s, initially considered a death sentence and met with fear, stigma, and discrimination, with limited access to medications, including the first antiretroviral drug, AZT (zidovudine).

- As of 2023, the prevalence of HIV in the 15-49 age group has decreased to 0.20%, with an estimated 2.4 million PLHIV, and India's share globally has decreased to 6.3%.

- India's annual new HIV infections have declined by 48% compared to the global average of 31% since 2010.

Other Related Initiatives:
- Complementary initiatives include free diagnostic facilities, prevention of parent-to-child transmission of HIV (PPTCT) services, introduction of Dolutegravir (DTG) in 2020, and rapid ART initiation within seven days of HIV diagnosis, adopted in 2021.

- The ongoing fifth phase of India's National AIDS Control Programme (NACP) aims, by 2025, to reduce annual new HIV infections by 80%, reduce AIDS-related mortalities by 80%, and eliminate vertical transmission of HIV and syphilis.

12. Hike in prices of essential medicines

Why is it in the news?
- The National Pharmaceutical Pricing Authority (NPPA), an independent regulatory agency under the Department of Pharmaceuticals, has recently increased the prices of essential medicines in India, which include painkillers, antibiotics, and anti-infectives.

More about the news:
- Essential medicines are those crucial for addressing the priority healthcare needs of the majority of the population. These medicines are identified based on the disease burden of the nation and their common usage across primary, secondary, and tertiary healthcare levels.

- The concept of Essential Medicines Lists (EML) originated in Tanzania in 1970, making it the first country to compile such a list.

- In India, the Ministry of Health and Family Welfare formulated the first National List of Essential Medicines (NLEM) in 1996, which has since been periodically revised to reflect changing healthcare needs.

- The Drug Price Control Order, 2013, issued by the Department of Pharmaceuticals under the Ministry of Chemicals and Fertilizers, regulates the prices of medicines listed in NLEM by setting ceiling prices to ensure affordability and accessibility.

13. Global Hepatitis Report 2024

Why is it in the news?

- World Health Organization (WHO) has released Global Hepatitis Report 2024.

10 COUNTRIES BEAR TWO-THIRDS OF GLOBAL BURDEN

Stacked bars represent total hep B + total hep C infections in millions. Figures in pie are country-wise share of total hep B + total hep C infections in the world. Source: WHO's Global Hepatitis Report 2024
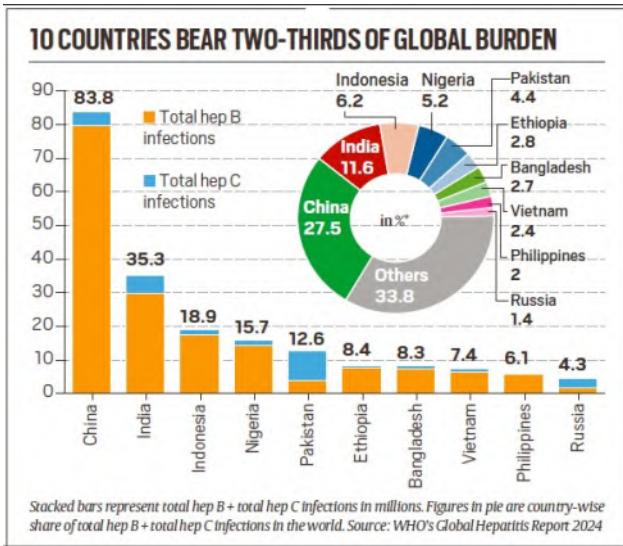
More about the news :

- India accounts for **11.6%** of the global burden of hepatitis.
- India ranks second after China for hepatitis B and C cases.
- Hepatitis is an inflammation of the liver caused by various infectious viruses and non-infectious agents such as alcohol, autoimmune factors, and drugs.
- The five main strains of the hepatitis virus are A, B, C, D, and E.
- Types B and C are particularly concerning as they lead to chronic disease.
- Hepatitis B and C are the most common causes of liver cirrhosis, liver cancer, and viral hepatitis-related deaths.
- A vaccine is available for hepatitis B, but there is no vaccine for hepatitis C.

14. Meningitis

Why is it in the news?

- Nigeria has become the first country in the world to introduce the Men5CV vaccine, recommended by the World Health Organization (WHO).
- This vaccine provides protection against five strains of meningococcus bacteria in a single shot.

- In India, the available vaccine for meningitis is the Meningococcal ACWY Vaccine. This vaccine offers protection against meningococcal strains A, C, W, and Y.

About Meningitis

- Meningitis is characterized by inflammation of the tissues surrounding the brain and spinal cord. It can be caused by various agents including bacteria, viruses, fungi, and parasites.
- Meningitis is primarily transmitted from person to person, often through respiratory droplets.
- While meningitis can affect individuals of all ages, young children are particularly vulnerable to the disease.
- Common symptoms of meningitis include neck stiffness, fever, confusion, headaches, and nausea. These symptoms can vary in severity depending on the cause and individual factors.

15. UNFPA released 'State of World Population 2024' report

Why is it in the news?

- The United Nations Population Fund (UNFPA) released the "State of World Population 2024" report titled "Interwoven Lives, Threads of Hope: Ending Inequalities in Sexual and Reproductive Health (SRH) and Rights".
- Women's Sexual and Reproductive Health and Rights (SRHR) encompass various fundamental rights, including the right to be free from torture, the right to health, privacy, education, life, and the prohibition of discrimination.

Key findings :

- India leads globally in population size, estimated at 1.4417 billion, followed closely by China with 1.425 billion.
- India's population is projected to double in 77 years, with 68% of the population belonging to the age group of 15-64 years and 26% in the 10-24 years age group.
- The Total Fertility Rate (TFR) in India stands at 2.0 births per woman in the reproductive age group.
- Life expectancy at birth in India is estimated at 71 years for men and 74 years for women.
- Child marriage rates in India were reported at 23% between 2006-2023.

- Women with disabilities experience up to 10 times more gender-based violence compared to women without disabilities.
- Despite 30 years of progress in Sexual and Reproductive Health (SRH), the report high-lights that marginalized communities have often been overlooked.
- Initiatives taken in India to improve SRH include the Janani Suraksha Yojana and the Surrogacy (Regulation) Amendment Rules, 2024.
- Globally, initiatives such as the International Conference on Population and Development Programme of Action in Cairo, Egypt (1994) and the Beijing Declaration and Platform for Action (1995) have been significant in advancing SRHR.

UNFPA

- The UNFPA, headquartered in New York, USA, was established in 1969 as the United Nations sexual and reproductive health agency.
- The UNFPA's mandate, established by the United Nations Economic and Social Council (ECOSOC), includes supporting access to a wide range of sexual and reproductive health services, including voluntary family planning, maternal health care, and comprehensive sexuality education.

16. National Curriculum for Early Childhood Care and Education 2024

Why is it in the news?

- The Ministry of Women and Child Development (MWCD) released the National Curriculum for Early Childhood Care and Education 2024, titled 'Aadharshila,' in alignment with the National Education Policy 2020 and the National Curriculum Framework.

More about the news:

- For the first time ever, the Union Government has released a curriculum advisable to be taught to children aged three to six years old.
- The curriculum aims to enhance pre-school learning in 14 lakh anganwadis across India, focusing on bridging foundational literacy and numeracy gaps crucial for later school years.

- Acknowledging that 85% of brain development occurs before the age of six, the Ministry aims to bolster India's Early Childhood Care and Education (ECCE) landscape.

Key Components of the ECCE Curriculum 2024:

- It covers all domains of development including physical/motor, cognitive, language and literacy, socioemotional, cultural/aesthetic, and positive habits.
- The curriculum is structured with a weekly calendar comprising 36 weeks of active learning, 8 weeks of reinforcement, and 4 weeks of initiation, with 5+1 days of play-based learning in one week and three blocks of activities in one day.
- Activities include a mix of in-centre and at-home, indoor and outdoor, childled, and educatorled initiatives.
- Assessment tools are provided to track progress, tailor learning, and celebrate each child's unique journey.
- Special focus is given to screening, inclusion, and referrals of Divyang children in every activity.

National Framework for Early Childhood Stimulation 2024:

- Designed for children from birth to three years, this framework provides Anganwadi Workers with a basic understanding of child growth and development, emphasizing brain development and nurturing care.
- It addresses conceptual and practical gaps in care and stimulation based on the Nurturing Care Framework.
- The framework includes 36-month-wise age-based activities for implementation within households, anganwadi centres, or creches.
- The documents have been prepared by the National Institute for Public Cooperation and Child Development (NIPCCD), which will also lead the training of Anganwadi functionaries on the new Curriculum and Framework.

17. About Shompen Tribe

Why is it in the news?

- For the first time, 7 members of the Shompen tribe, categorized as a particularly vulnerable tribal group (PVTG) from Great Nicobar Islands, participated in voting for the sole Lok Sabha seat in Andaman and Nicobar Islands.

- In addition to the Onge and Great Andamanese tribes, who previously exercised their voting rights in the 2019 Lok Sabha election, seven out of 98 Shompen voters participated for the first time in the electoral process in Andaman and Nicobar Islands.

About Shompen Tribe

- Inhabits the remote interior regions of Great Nicobar Island, the southernmost island in the Andaman and Nicobar archipelago.

- Estimated population was 229 as per the 2011 Census data.

- They engage in traditional hunting, fishing, and gathering forest resources.

- The Staple food includes Pandanus, a tropical plant found in the islands.

- The only tribe in the region with Mongoloid features, distinguishing them from other PVTGs with Negroid features.

- They have their own distinct language belonging to the Austroasiatic language family.

- Cultural practices include marriage by capturing women from different groups and sub-groups, as per the Anthropological Survey of India.

- They practice a hunter-gatherer subsistence economy.

- They maintain their unique societal customs and traditions within their community.

18. Glycemic Index of Diets: Importance beyond Diabetes Control

Why is it in the news?

- There is a lot of evidence to support the growing importance of the GI and GL of diets. The link between high GI and GL diets to the risk of type 2 diabetes has been clearly established recently.

- Understanding and managing Glycemic Index (GI) in diets is crucial for promoting longterm health and mitigating the risk of chronic diseases by regulating blood glucose levels effectively.

About Glycemic Index (GI)

- Prof. David Jenkins introduced GI in 1981.

- It measures how quickly a food raises blood glucose levels compared to a reference food, typically glucose or white bread (assigned a value of 100).

Classification and Glycemic Load (GL)

- GL is obtained by multiplying GI by the amount of carbohydrate consumed.

- Foods are classified based on their GI:

- Low GI (below 55): Brown rice, steel-cut oats, legumes, most fruits, vegetables, nuts, and seeds.

- Medium GI (56-69): Whole wheat products, some types of rice, and certain fruits like pineapple and mango.

- High GI (70 or above): Refined carbohydrates, sugary foods, potatoes, sweetened drinks, candies, cookies, and sugary snacks.

Relevance to India

- In South Asia, where diets are rich in high GI foods like white rice, efforts to reduce GI and GL are crucial.

- Lowering GI and GL can help prevent not only diabetes but also premature cardiovascular disease, which is prevalent in India.

GEOGRAPHY AND DISASTER MANAGEMENT

1. Afar Triangle

Why is it in the news?

- Recent geological discoveries indicate that the Afar Triangle in Africa may become the origin of a new ocean within the next 5 to 10 million years.

More about the news:

- The **Afar Triangle**, situated in the Horn of Africa, is a geological depression where three tectonic plates (Nubian, Somali, and Arabian) converge.

- It is part of the broader East African Rift system, extending from the Afar region down through eastern Africa.

- Besides its geological importance, the Afar Triangle holds a rich paleontological history, revealing fossil specimens of some of the earliest hominins.

- The region has experienced gradual tectonic movements for millions of years. A significant rift opened up in the Ethiopian desert in 2005, highlighting the ongoing separation of the African continent at a tectonic level.

Factors Driving Rift's Expansion:

- A massive plume of superheated rocks rising from the mantle beneath East Africa is believed to be a key factor, exerting pressure on the overlying crust, causing it to stretch and fracture.

- Magmatism, particularly at the **Erta Ale volcano,** provides clues to the tectonic transition, with characteristics resembling those of a mid-ocean ridge.

- **Magmatism:** Formation and motion of magma below Earth's surface contribute to various phenomena such as filling tectonic cracks, forming mountains, and releasing heat from the Earth's core.

- The ongoing rift expansion in the Afar region could lead to the formation of a new ocean, tentatively named the "Alvor-Teide Atlantic Rift". This would occur as the Red Sea and the Gulf of Aden flood over the Afar region into the East African Rift Valley.

2. Swell waves inundated coastal areas of Kerala

Why is it in the news?

- Swell waves, locally referred to as 'Kallakkadal' in Kerala, are a phenomenon characterized by inundation of coastal areas in central and southern districts of the state.

More about the news:

- The term 'Kallakkadal' is colloquially used by Kerala fishermen to describe these flooding episodes and was formally accepted by UNESCO for scientific use in 2012.

- Swell waves occur when waves in a fully developed sea outrun the storm that creates them, traveling great distances from the wind source.

- These waves have lower frequencies compared to waves generated by local storms and are able to travel thousands of miles without significant changes in height and period.

- Swell waves organize into groups that appear smooth and regular in appearance.

- The longer the wave, the faster it travels, and as waves leave a storm area, they tend to sort themselves out with the longer ones ahead of the shorter ones.

- Further, the energy from swell waves is simultaneously spread out over an increasingly larger area as they travel.

3. IOM's Report: A Decade of Documenting Migrant Deaths

Why is it in the news?

- The International Organization for Migration (IOM) released a report titled "A Decade of Documenting Migrant Deaths" on the completion of ten years of its Missing Migrants Project (MMP), launched in 2014 to document deaths and disappearances of people in migration towards international destinations.

- IOM, established in 1951, is a leading intergovernmental organization in the field of migration, headquartered in Geneva, Switzerland, and comprising 175 member states, including India.

Key findings of the Report:

- More than one in three migrants whose country of origin could be identified come from countries in conflict, and over two-thirds of those whose deaths were documented through IOM's MMP remain unidentified.

- Major causes of migrant deaths include drowning, vehicle accidents, suffocation due to fuel inhalation, inadequate shelter, healthcare, etc.

About Migration

- **Migration refers** to the movement of persons away from their place of usual residence, either across an international border or within a state, driven by factors such as urbanization, marriage, economic disparities, political instability, and impacts of climate change.

- **Consequences of migration** include the intermixing of diverse cultures, overcrowding in cities leading to haphazard growth and slum development, changes in resource-population ratio, and brain drain as skilled individuals migrate from poorer to developed countries for better economic opportunities.

- **Initiatives** related to migration include the Global Compact for Safe, Orderly and Regular Migration (GCM), the first intergovernmental agreement prepared under the United Nations to cover all dimensions of international migration holistically.

- In India, welfare measures in destination countries such as the Pravasi Bharatiya Bima Yojana and pre-departure orientation training are provided to better prepare migrants for their life abroad and raise awareness of their rights and duties.

4. Massive earthquake hits Taiwan

Why is it in the news?

- Nine people died and over 800 were injured in Taiwan's largest earthquake in 25 years, registering 7.2 magnitude according to local authorities and 7.4 magnitude by the United States Geological Survey (USGS).

- Taiwan is prone to earthquakes due to the interactions between the Philippine Sea Plate and the Eurasian Plate. These interactions cause frequent seismic activity in the region.
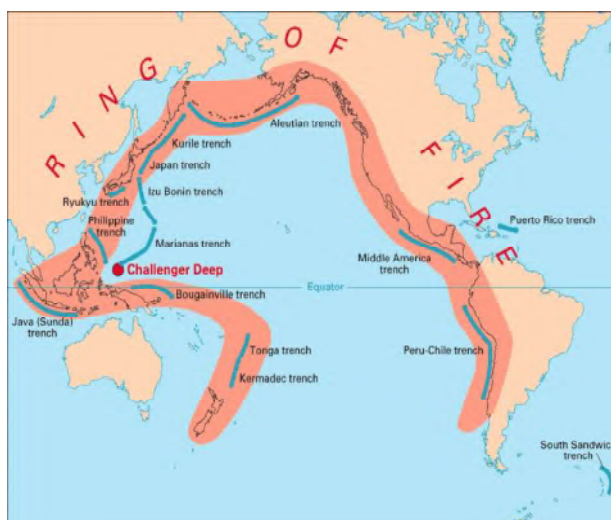
About Ring of Fire

- The Ring of Fire is a horseshoe-shaped area comprising hundreds of volcanoes and earthquake sites that encircle the Pacific Ocean.

- It stretches approximately 40,250 kilometres and runs through 15 countries, including the USA, Indonesia, Mexico, Japan, Canada, and the Philippines.
- The Ring of Fire marks the meeting points of several tectonic plates, including the Eurasian, North American, Juan de Fuca, Cocos, and Philippine plates, among others.
- The large Pacific Plate encompasses these smaller plates, leading to interactions such as sliding past, colliding into, or moving above or below each other.
- Earthquakes occur due to the rough edges of these plates getting stuck with one another while the rest of the plate keeps moving. When the stuck edges finally unstick on one of the faults, an earthquake happens.

About Volcanic activity:
- Many volcanoes in the Ring of Fire are formed through a process called subduction, where one tectonic plate is shoved under another.
- This process occurs when two plates collide, with the heavier plate being forced beneath the lighter plate, creating deep trenches.
- The subduction process leads to the heating up of the oceanic plate, mixing volatile elements, and producing magma. This magma then rises to the surface, forming volcanoes.
- Most subduction zones on Earth are located within the Ring of Fire, which explains why it hosts a large number of volcanoes.
- The collision and subduction of tectonic plates in this region create the ideal conditions for volcanic activity.

5. Indian Meteorological Department (IMD) issued Heatwave alert

Why is it in the news?
- The Indian Meteorological Department (IMD) issued a heatwave alert predicting above normal heatwave conditions over most parts of south peninsula, central India, east India, and plains of northwest India during the April to June hot weather season.

About Heat waves
- **Heatwave** is declared when temperatures cross 40°C in plains, 37°C in coastal areas, and 30°C in hills, with specific criteria for departure from normal temperature ranging from 4.5°C to 6.4°C, and actual maximum temperature criteria ranging from 45°C for heat-wave and 47°C for severe heatwave.
- **Favourable conditions for heatwaves:** Transportation of hot dry air, absence of moisture in the upper atmosphere, cloudless skies, and large amplitude anti-cyclonic flow over the area.
- **Impacts of heatwaves:** Health hazards such as heat stroke, increased strain on water and energy sources, and food insecurity due to crop wilting, stunting, or early ripening.

Key initiatives:
- IMD issues color coded impact-based heat warnings jointly with the National Disaster Management Authority (NDMA), including Green (No action), Yellow (Be updated), Orange (Be prepared), and Red (Take Action) alerts.
- NDMA's guidelines include the preparation of action plans for the prevention and management of heatwaves, and states prepare Heat Wave Action Plans accordingly.
- The National Action Plan on Heat Related Illnesses aims at effective preparedness of health facilities to address heat impacts and manage cases.

6. Risk from Glacial Lake Floods

Why is it in the news?
- The Uttarakhand government has formed two expert teams to assess the threat from five glacial lakes susceptible to Glacial Lake Outburst Floods (GLOFs), indicating proactive measures to mitigate potential hazards and enhance disaster preparedness in the region.

About GLOFs

- GLOFs are disaster events caused by the sudden discharge of water from glacial lakes, primarily occurring due to glacial melting and subsequent lake formation.

- GLOFs can be triggered by various events such as glacial calving, avalanches, landslides, or unstable boundaries around glacial lakes.
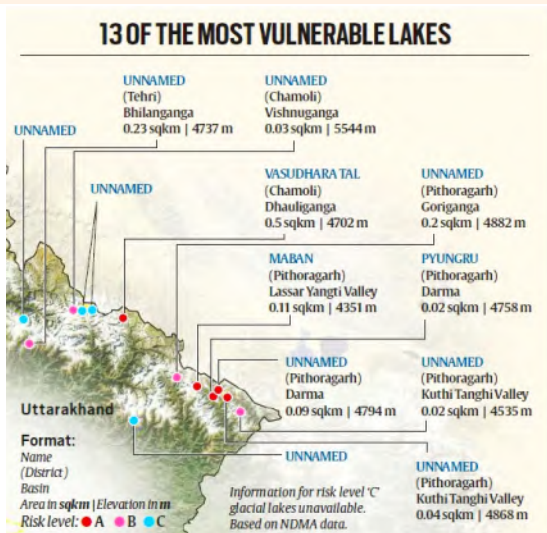
Reasons:

- Soaring global temperatures, resulting in glacier melting, have led to a rise in GLOF events in regions like the Himalayas.

- Rapid infrastructure development in vulnerable areas has exacerbated the risk of GLOF incidents, as it increases human presence in high-risk zones.

Impact:

- GLOFs can result in devastating consequences, including submerging valleys, destroying infrastructure like roads and bridges, and causing loss of life and livelihoods.

Geographical distribution:

- GLOFs are commonly associated with glacial regions, particularly in mountainous areas with significant glacial activity, such as the Himalayas, Andes, and Alps.

- Since 1980, GLOFs have become more frequent in the Himalayan region, particularly in southeastern Tibet and the China-Nepal border area.

- The National Disaster Management Authority (NDMA) has identified 188 glacial lakes in the Himalayan states, including thirteen in Uttarakhand, as potentially hazardous due to heavy rainfall.

13 OF THE MOST VULNERABLE LAKES

UNNAMED (Tehri) Bhilanganga 0.23 sqkm | 4737 m

UNNAMED (Chamoli) Vishnuganga 0.03 sqkm | 5544 m

UNNAMED

UNNAMED

VASUDHARA TAL (Chamoli) Dhauliganga 0.5 sqkm | 4702 m

UNNAMED (Pithoragarh) Goriganga 0.2 sqkm | 4882 m

MABAN (Pithoragarh) Lassar Yangti Valley 0.11 sqkm | 4351 m

PYUNGRU (Pithoragarh) Darma 0.02 sqkm | 4758 m

UNNAMED (Pithoragarh) Darma 0.09 sqkm | 4794 m

UNNAMED (Pithoragarh) Kuthi Tanghi Valley 0.02 sqkm | 4535 m

Uttarakhand

Format:
Name
(District)
Basin
Area in sqkm | Elevation in m
Risk level: ● A ● B ● C

UNNAMED

Information for risk level 'C' glacial lakes unavailable.
Based on NDMA data.

UNNAMED (Pithoragarh) Kuthi Tanghi Valley 0.04 sqkm | 4868 m

Suggestions for Mitigation:

- There's a need to study glacier and glacial lake dynamics comprehensively to assess GLOF risk effectively.

- Utilizing satellite imagery and remote sensing technology can help monitor changes in glacial lakes and identify potential threats.

- Developing and communicating emergency preparedness plans to communities at risk is crucial for reducing the impact of GLOF events.

7. Annual Land Use and Land Cover (LULC) Atlas of India

Why is it in the news?

- The Annual Land Use and Land Cover (LULC) Atlas of India is released by the **National Remote Sensing Centre (NRSC)** to systematically examine land utilization patterns and provide insights into environmental dynamics.

Key highlights of the Atlas:

- **Agriculture:** Over the past 17 years, both Kharif and Rabi cropland have expanded significantly, by 46.06% and 35.23% respectively, while fallow land decreased by 45.19%. Areas for double/triple/annual cropping have increased by 82.22%.

- **Shifting cultivation:** Increased until 2016-17 and then declined.

- **Water resources:** Minimum water body surface area increased by 146% since 2005.

- **Built-up land:** Experienced a 30.77% overall growth since 2005, attributed to urbanization, infrastructure development, and an increase in wastelands contributing significantly.

- **Wastelands:** Degraded and unproductive lands played a significant role in built-up area expansion, contributing 12.3% to the growth.

- Reasons for changes in LULC include improved availability of farm inputs such as irrigation facilities, urbanization, and infrastructure development.

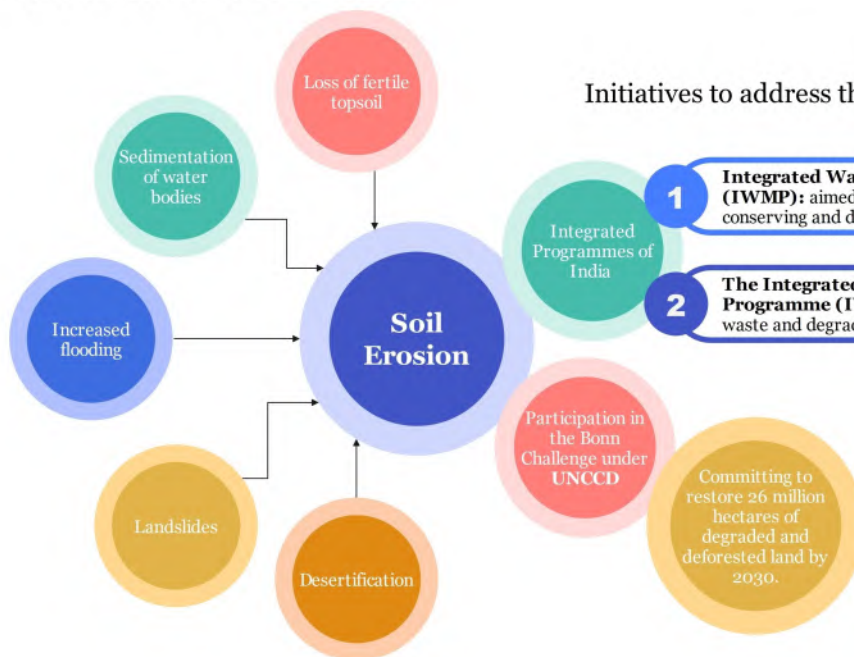# 8. Geospatial Modeling and Mapping of Soil Erosion in India

Why is it in the news?

- The study titled "**Geospatial Modeling and Mapping of Soil Erosion in India**," conducted by IIT-Delhi, offers a comprehensive national-scale assessment of soil erosion and sediment yield mapping to facilitate the planning and implementation of soil conservation strategies.

- Soil erosion is defined as the accelerated removal of topsoil from the land surface through water, wind, and tillage, significantly exacerbated by unsustainable human activities such as intensive agriculture, deforestation, and improper land use changes.

Key findings of the study:

- An estimated yearly potential soil loss for India at 21 tonnes per hectare per year, with over 78 million hectares of agricultural land experiencing an average productivity loss of 8%.

- Vulnerability hotspots for soil erosion are identified, with the Brahmaputra basin having the maximum potential erosion, followed by the Mahanadi and Ganga basins.

- Approximately 5% of the geographical area, including parts of Assam, Meghalaya, and Himachal Pradesh, is classified under catastrophic erosion category, posing risks to infrastructure.

- Factors contributing to soil erosion include rainfall intensity combined with topography, with rainfall intensity demonstrating the highest influence.

Concerns related to **Soil Erosion**

Initiatives to address the **Soil Erosion** in India

1 **Integrated Watershed Management Programme (IWMP):** aimed at restoring ecological bal-ance by conserving and developing degraded natural resources.

2 **The Integrated Wasteland Development Programme (IWDP):** for improving productivity of waste and degraded lands.

Concerns related to soil erosion

- Reduced productivity due to loss of fertile topsoil, sedimentation of water bodies, increased flooding and landslides, and desertification.

Initiatives in India to address soil erosion :

- Integrated Watershed Management Programme (IWMP) aimed at restoring ecological balance by conserving and developing degraded natural resources.

- The Integrated Wasteland Development Programme (IWDP) for improving productivity of waste and degraded lands.

- Participation in the Bonn Challenge under UNCCD, committing to restore 26 million hectares of degraded and deforested land by 2030.

9. Volcanic Vortex Rings

Why is it in the news?

- **Mount Etna,** Europe's largest volcano, has been emitting rare volcanic vortex rings, a natural phenomenon produced similar to smoke rings.

- Mount Etna, located on the east coast of Sicily, is one of the largest and most active volcanoes in Europe.
- It has five craters at its summit and over 300 vents along its slopes, making it almost constantly active.

More about the news:

- **Volcanic vortex rings**, a rare phenomenon, occur when gas, mainly water vapor, is rapidly released through a vent in the crater.

- Vortex rings are generated when gas is released rapidly through a circular vent in the crater, resulting in circular smoke rings above the volcano.

- This phenomenon was first observed at Etna and Vesuvius in Italy in 1724 and has been documented at various other volcanoes worldwide.

- Volcanic vortex rings are produced similarly to how dolphins blow bubble rings, by compressing gas in their mouths and pushing it out with their tongues.

- The rings can remain in the air for up to 10 minutes but disintegrate quickly if conditions are windy and turbulent.

- Mount Etna is well known for producing a significant number of vapor rings, with reports of "dozens of gas rings every day" according to some volcanologists.

- The occurrence of volcanic vortex rings does not necessarily indicate that Etna is about to erupt in a particularly spectacular way.

- The activity from the new vent producing the rings may slow down due to changes in the conduit's properties or obstructions.

- While the phenomenon of volcanic vortex rings is fascinating and often associated with volcanic activity, its occurrence does not always correlate with imminent eruptions.

10. Mount Ruang in Indonesia Erupts

Why is it in the news?

- Indonesia experienced multiple eruptions from Mount Ruang, a stratovolcano situated in North Sulawesi Province.

About Mount Ruang

- Situated in the Sangihe Islands arc, North Sulawesi, Indonesia.

- Comprises an island 4 by 5 kilometres wide, with a summit containing a partial lava dome reaching an altitude of 725 meters (2,379 ft).

- Offers views of nearby peaks such as Klabat, Siau, and Ternate.

- First recorded eruption occurred in 1808.

Why Many Volcanic Eruptions in Indonesia

- Indonesia, with 120 active volcanoes, is situated along the Pacific 'Ring of Fire.'

- The Ring of Fire is characterized by active volcanoes and frequent earthquakes due to seismic fault lines around the Pacific Ocean.

Pacific 'Ring of Fire'

- Extends over 40,000 kilometres and encircles the Pacific Basin.

- Home to about 75% of the world's volcanoes and witnesses about 90% of the world's earth-quakes.

- Spreads from New Zealand to Tonga, Indonesia, Philippines, Japan, Aleutian Islands, and along the western coast of North and South America.
- The area is situated along several tectonic plates, including the Pacific, Philippine, Juan de Fuca, Cocos, Nazca, and North American plates.
- Movement of these plates creates subduction zones, leading to abundant earthquakes and tsunamis annually.

11. Ringwoodite

Why is it in the news

- Researchers have identified a massive reservoir of water located approximately 700 kilometres beneath the Earth's surface, contained within a mineral called ringwoodite.
- This subterranean ocean is reported to be three times larger in volume compared to all of the Earth's surface oceans combined, signifying its immense size and significance.

More about the news

- Scientists inferred the presence of this reservoir by analyzing the speed of seismic waves generated by earthquakes. This enabled them to study the composition of the Earth's inner layers, leading to the discovery of ringwoodite and its water-absorbing properties.
- Ringwoodite is a mineral found in the Earth's transition zone. It possesses a unique crystal structure that enables it to absorb water and hydrogen, effectively behaving like a sponge.
- One of the notable characteristics of ringwoodite is its ability to hold a significant amount of water.
- The discovery of this massive reservoir of water deep within the Earth's mantle has significant implications for our understanding of the planet's composition, water cycle, and geological processes.
- It sheds light on previously unknown aspects of Earth's interior and could potentially reshape scientific theories about the distribution and availability of water on our planet.

1. Remembering Vaikom satyagraha, a 100 years later

Why is it in the news?

- The **Vaikom satyagraha**, which commenced on **March 30, 1924**, **in Vaikom, Kerala**, marked the beginning of temple entry movements in India and highlighted the issues of untouchability and caste oppression.

More about the news:

- Lasting for over 600 days, it was the **first instance of a non-violent agitation** in the country aimed at social reform, coinciding with the nationalist movement led by Mahatma Gandhi.

- The **princely state of Travancore**, where Vaikom is located, had a feudal and caste-ridden system, where lower castes were barred from entering temples and other "**pure**" places.

- The agitation was initiated by **Ezhava leader T K Madhavan**, who advocated for temple entry and enlisted support from Mahatma Gandhi and the **Indian National Congress (INC)**.

- The satyagraha focused initially on opening the roads around the Vaikom temple to lower castes, leading to a series of protests, arrests, and demonstrations against caste-based discrimination.

- The movement gained momentum with leaders like **Periyar and C Rajagopalachari** joining in, but faced opposition and violence from upper-caste Hindus.

- After months of protests and negotiations, a compromise was reached in March 1925, allowing access to three out of four roads surrounding the temple, albeit with one road reserved for Brahmins.

- Despite its shortcomings, the Vaikom satyagraha laid the groundwork for future social reforms, culminating in the historic **Temple Entry Proclamation** signed by the Maharaja of Travancore in November 1936, which abolished the age-old ban on entry into temples for marginalized castes.

2. Ambedkar Jayanti

Why is it in the news?

- President Murmu, PM Modi pay tributes to Dr. B.R. Ambedkar on his 134th birth anniversary.

More about the news:

- Ambedkar Jayanti, celebrated on April 14 every year, commemorates the birth anniversary of Dr. Bhim Rao Ambedkar, the 'Father of the Indian Constitution.'

- Dr. Ambedkar, born in **1891**, was not only the principal architect of the Indian Constitution but also the first Law Minister of Independent India, a jurist, economist, and social reformer.

- He dedicated his life to eradicating discrimination against untouchables, advocating for women's and labour rights, earning him the moniker '**Equality Day**' for his relentless pursuit of equality.

- His legacy inspires continued efforts towards creating a more inclusive and equitable society, promoting justice, liberty, equality, and fraternity as enshrined in the Indian Constitution.

Mahad Satyagraha and its significance

- The Mahad Satyagraha of 1927 is regarded as the foundational event of the Dalit movement, representing the first major collective protest by the Dalit community against the caste system under the leadership of Dr. B.R. Ambedkar.

- The Satyagraha symbolized the collective resolve of Dalits to reject the oppressive caste system and assert their human rights, marking a significant milestone in the struggle for Dalit emancipation.
- Led by Dr. Ambedkar, the Mahad Satyagraha demonstrated organized resistance against caste-based discrimination and oppression, setting a precedent for future anti-caste movements.
- The Satyagraha was triggered by the refusal of upper-caste Hindus to allow Dalits access to public water sources, despite a resolution passed by the Bombay Legislative Council advocating for their rights.
- Dr. Ambedkar played a pivotal role in organizing and leading the Satyagraha, mobilizing Dalit communities across Maharashtra and Gujarat to participate in the movement.
- Symbolic actions such as the burning of the Manusmriti, a text associated with caste-based discrimination, during the Satyagraha, sent shockwaves through Hindu society and under-scored the Dalit community's defiance of oppressive social norms.
- The Mahad Satyagraha served as a blueprint for organizing future movements against the caste system, inspiring Dalits to challenge caste-based discrimination and assert their rights.
- The success of the Mahad Satyagraha catapulted Dr. Ambedkar to national prominence as a leader of the oppressed classes, shaping his political trajectory and cementing his role as a champion of social justice and equality.

3. Padta Bet

Why is it in the news

- The archaeological excavation has revealed a 5,200-year-old Harappan settlement at Padta Bet, located in Kachchh, Gujarat, India.

More about the news

- It is situated near Juna Khatiya, an Early Harappan necropolis (mass burial site), indicating continuous human occupation in the region.
- Evidence of occupation spans from the Early Harappan to Late Harappan periods.
- Excavations have uncovered ceramic artifacts of various kinds, including large storage jars, small bowls, and dishes, suggesting domestic activities and food storage practices.
- Other artifacts found at the site include semi-precious stone beads made of carnelian and agate, terracotta spindle whorls used for spinning yarn, copper artifacts, and lithic tools.
- Remains of animal bones have been discovered, representing cattle, sheep, or goats. Additionally, edible shell fragments have been found, indicating the presence of domesticated animals and marine resources in the diet of the inhabitants.

A. Defence

1. Exercise Tiger Triumph

Why is it in the news?

- Exercise Tiger Triumph is a **India-US tri-Service Humanitarian Assistance and Disaster Relief (HADR)** exercise that recently commenced on the Eastern seaboard.

More about the news:

- The exercise involves both the Indian and U.S. forces and is scheduled to include a harbour phase followed by a sea phase.
- The primary objectives of Exercise Tiger Triumph are to develop interoperability for conducting HADR operations and refine Standard Operating Procedures (SOPs) to enable rapid and smooth coordination between the forces of both countries.

2. Exercise 'Gagan Shakti'

Why is it in the news?

- The Indian Air Force is currently conducting its largest exercise, named 'Gagan Shakti', at the Pokhran Field Firing Range located in the Jaisalmer district.

More about the news:

- The exercise involves the participation of all major fighter aircraft and modern helicopters belonging to the Indian Air Force.
- The primary objective of 'Gagan Shakti' is to demonstrate the striking capabilities of the Indian Air Force and enhance its preparedness for various combat scenarios.
- 'Gagan Shakti' serves as a platform for the Indian Air Force to test its operational readiness, coordination, and interoperability among different aircraft and units.

3. ICG Ship Samudra Paheredar

Why is it in the news?

- As part of an overseas deployment to ASEAN countries, the Minister of External Affairs visited the Indian Coast Guard ship Samudra Paheredar stationed in Manila Bay, Philippines.

More about the news

- Indian Coast Guard Ship Samudra Paheredar, also known as ICGS Samudra Paheredar, is a specialized Pollution Control Vessel (PCV) operated by the Indian Coast Guard.
- ICGS Samudra Paheredar is primarily designed and utilized for pollution response at sea. Its main mission is to mitigate and control oil spills and other environmental pollutants in mari-time areas.
- The vessel was constructed by ABG Shipyard, located in Surat, India. It is a product of Indian shipbuilding expertise, tailored to meet the specific needs of coastal pollution control.
- It is stationed on the East Coast of India, based in Vishakhapatnam, Andhra Pradesh. This strategic location allows for swift deployment and response to pollution incidents along the eastern maritime borders of India.

Key Features:

- The vessel is equipped with state-of-the-art pollution response and control equipment. This includes containment gear such as hisprint booms and river booms, as well as recovery devices like skimmers and side sweeping arms.

- ICGS Samudra Paheredar is capable of conducting oil recovery operations without hindrance.
- The vessel features an integrated platform management system, which provides centralized control and monitoring of various shipboard systems.
- A robust power management system is integrated into the vessel's infrastructure, ensuring reliable and uninterrupted power supply for onboard operations, including pollution control activities.
- In addition to its pollution control capabilities, ICGS Samudra Paheredar is equipped with a high-powered external firefighting system.
- The vessel has the capability to accommodate one twin-engine ALH (Advanced Light Helicopter) or Chetak helicopter.

4. IMT TRILAT 24 Exercise

Why is it in the news?
- The second edition of the India-Mozambique-Tanzania (IMT) Tri Lateral (TRILAT) Exercise, named IMT TRILAT-2024, is scheduled from 21st to 29th March 2024.
- The exercise will conclude with a joint debrief scheduled at Nacala, Mozambique.

More about the news:
- Indian Naval ships INS Tir and INS Sujata will participate in the exercise, following the first edition conducted in October 2022 with INS Tarkash alongside the Tanzanian and Mozambique Navies.
- The joint operation is conducted in line with the vision of SAGAR (Security & Growth for All in the Region), emphasizing the importance of security and sustainable development in the southeast African coast region.

5. Project Akashdeep

Why is it in the news?
- The Indian Army has initiated the induction of the Akashteer Command and Control Systems under 'Project Akashdeep' to enhance its air defense capabilities.

More about the news:
- The project focuses on the deployment of advanced air defense control and reporting systems.

- The Akashteer Command and Control Systems are developed by **Bharat Electronics Limited (BEL)** as part of the Atma Nirbhar Bharat initiative, emphasizing self-reliance in defense manufacturing.
- It is designed to automate air defense control and reporting processes by digitizing the entire workflow.
- The system's Control Centres are mobile and vehicle-based, ensuring operational capabilities even in challenging communication environments.

- It aims to facilitate the monitoring of low-level airspace in the Indian Army's battle areas and effectively control Ground Based Air Defense Weapon Systems.
- Akashteer integrates radar and communication systems at all levels into a unified network, enhancing situational awareness and control.
- Project Akashdeep shares similarities with the Indian Air Force's air defense system, focusing on creating a comprehensive air defense picture for monitoring, tracking, and engaging air defense assets through digitalization.

6. Agni-Prime Ballistic Missile

Why is it in the news?
- The Agni-Prime is a newly developed ballistic missile successfully flight-tested by the Strategic Forces Command (SFC) and the Defence Research and Development Organisation (DRDO) from Dr APJ Abdul Kalam Island, off the coast of Odisha.

About Agni-Prime:
- It is a two-stage, surface-to-surface missile designed to be launched from canisters, making it road-mobile and enhancing its strategic flexibility.

- Unlike its predecessors, the Agni-Prime is fuelled by solid propellants, contributing to its reliability and readiness for deployment.
- The missile is equipped with a dual redundant navigation and guidance system, ensuring accurate targeting capabilities.
- With a range between **1000 to 2000 kilometres**, the Agni-Prime fills the gap between short-range and intermediate-range ballistic missiles, bolstering India's deterrence capabilities.
- Notably, the Agni-Prime is lighter than earlier models in the Agni series, enhancing its mobility and ease of deployment.
- It incorporates several advancements, including upgrades to the composite motor casing, a manoeuvrable reentry vehicle (MaRV), and improved propellants, navigation, and guidance systems, enhancing its accuracy and effectiveness.

Ballistic Missiles

- Ballistic missiles are rocket-propelled, self-guided strategic weapons systems designed to follow a ballistic trajectory from launch to target.
- They are capable of carrying various types of payloads, including conventional high explosives, as well as chemical, biological, or nuclear munitions.

Strategic Forces Command (SFC):
- The Strategic Forces Command (SFC) is part of India's Nuclear Command Authority (NCA), sometimes referred to as the Strategic Nuclear Command.
- The Nuclear Command Authority consists of a Political Council and an Executive Council. The Political Council, chaired by the **Prime Minister**, holds the sole authority to authorize the use of nuclear weapons.
- The Executive Council, chaired by the **National Security Advisor**, offers inputs for decision-making to the Nuclear Command Authority and executes directives issued by the Political Council.
- The SFC is tasked with managing and administering India's tactical and strategic nuclear weapons stockpile, ensuring readiness and operational effectiveness.

B. Awards

1. Sangita Kalanidhi Award

Why is it in the news?
- Carnatic vocalist T.M. Krishna has been honoured with the Sangita Kalanidhi award for 2024 by the Music Academy.

More about the news
- T.M. Krishna is known for his powerful voice, adherence to tradition, and experimentation with the format of Carnatic music. He has also used music as a tool for social reform.
- T.M. Krishna acknowledged the significance of the award and its past recipients, including his teacher Semmangudi Srinivasa Iyer and M.S. Subbulakshmi.

C. Others

1. Darien Gap

Why is it in the news?
- The Darien Gap has emerged as a pathway for illegal migration to the United States.

More about the news
- The Darien Gap is situated across northern Colombia in South America and southern Panama in North America.
- Spanning approximately 60 miles (97 kilometres) in width, the Darien Gap is characterized by dense, forested jungle terrain.
- The terrain is rugged and difficult to navigate, posing risks such as getting lost, encountering dangerous wildlife, or succumbing to natural hazards.
- Criminal gangs operate in the area, exerting control over certain parts of the Darien Gap.

- Despite the challenges posed by the difficult terrain and security risks, the Darien Gap has become a major route for illegal migration to the United States.

2. Sittwe Port- India's second overseas port

Why is it in the news?

- Recently, India secured operational rights for its second overseas port, **Sittwe in Myanmar**.
- **India Ports Global (IPGL)**, wholly owned by the Ministry of Ports, Shipping, and Water-ways, will assume control of port operations.

About Sittwe Port:

- Sittwe Port's coastal position grants it access to key maritime trade routes, establishing it as a vital gateway for both regional and international commerce.
- Positioned at the mouth of the **Kaladan River**, which empties into the Bay of Bengal, the port enjoys a strategic location that enhances its significance in facilitating trade and transportation activities.
- The port's construction as part of the Kaladan Multi-Modal Transit Transport Project under-scores India's strategic interest in enhancing connectivity and trade opportunities in the region.
- Sittwe Port's status as a **deepwater port** enables it to accommodate large vessels, facilitating efficient loading and unloading operations.

3. Mohiniyattam

Why is it in the news?

- Kalamandalam University has made the decision to allow boys to learn Mohiniyattam, breaking traditional gender norms associated with the dance form.

About Mohiniyattam

- Mohiniyattam is a renowned classical dance form originating and predominantly popular in the state of Kerala, India.
- The name "Mohiniyattam" is derived from "Mohini," an enchantress avatar of the Hindu god Vishnu, known for using feminine powers to aid in the triumph of good over evil.
- Its roots trace back to the Natya Shastra, an ancient Sanskrit text on performing arts, adhering to the Lasya style described within, which is characterized by its delicate, feminine, and sensual qualities.
- Traditionally, Mohiniyattam is performed solo by women who undergo extensive training in the dance form.
- The repertoire of Mohiniyattam encompasses elements of Carnatic music, singing, and storytelling through dance. The recitation can be performed either by a separate vocalist or by the dancer herself.

4. Karnataka Ban Harmful Food Colouring Agents

Why is it in the news?

- The Karnataka Government has recently announced a ban on harmful colouring agents in certain food items. Specifically, the ban targets Rodamine B in cotton candy and imposes restrictions on Tartrazine usage in Gobi Manchurian.

More about the news

- Rodamine B is commonly used in synthetic dyes for colouring various materials like silk, jute, leather, cotton, and wool, as well as in cosmetics and plastics industries.
- Tartrazine is a bright yellow azo dye, often used as a cheaper alternative to natural food dyes.
- The **Food Safety and Standards Authority of India (FSSAI)** regulates food additives and colours. According to FSSAI regulations, no colouring matter

should be added to food unless permitted under the Food Safety and Standards (Food Products Standards and Food Additives) Regulation, 2011.

5. BhashaNet portal

Why is it in the news?

- The BhashaNet portal was launched during the Universal Acceptance (UA) Day event on March 21, 2024, to promote digital inclusion and support UA across India.

About Universal Acceptance (UA)

- Universal Acceptance (UA) is a critical concept in ensuring that all domain names and email addresses, irrespective of the language or script they are written in, can be accessed and used by all internet-enabled applications, devices, and systems.
- It aims to eliminate barriers that prevent users from accessing digital services due to language-specific or script-specific constraints.

BhashaNet Portal

- The BhashaNet portal, launched by the Ministry of Electronics and Information Technology (MeitY) and the National Internet Exchange of India (NIXI), aims to promote Universal Acceptance across India.
- The portal offers resources and information in multiple Indian languages, widening accessibility and inclusivity for a diverse audience.
- Developers and businesses can access tools and guidelines on the portal to assess and enhance the Universal Acceptance readiness of their applications and systems.
- The portal showcases best practices and case studies from organizations that have successfully implemented Universal Acceptance. These serve as guidance and inspiration for others aiming to achieve UA compliance.

6. UN World Water Development Report 2024

Why is it in the news?

- UN World Water Development Report 2024 focused on 'Water for Prosperity and Peace' was released.

Key Highlights of the Report
Recognition of Water's Role in Peace and Prosperity:

- The report emphasizes the critical role of water in ensuring both peace and prosperity globally.
- While it acknowledges water's significance in peace and prosperity, it doesn't conclusively predict that future wars will be fought over water resources.

Current Status of Water Resources:

- Agriculture constitutes 70% of freshwater withdrawals, highlighting its heavy reliance on water.
- Lake Chad has significantly diminished in size by 90% over the past 60 years, indicating the severity of water resource depletion.
- Cooperation over shared surface water is increasing, but groundwater resources remain largely neglected.

Challenges in Attaining SDG 6 (Water for All by 2030):

- Approximately 50% of the global population faces severe water scarcity at least part of the year, underscoring the urgency of addressing this issue.
- Regions such as Northwest India and North China are identified as top hotspots for water-related risks to food production.

Prevalence of Water-Prosperity Paradox:

- Developed water resource infrastructure can stimulate growth and prosperity, but only wealthy nations can afford such investments.
- The report highlights the paradox where access to water infrastructure is crucial for prosperity, yet it remains out of reach for many due to financial constraints.

Key Recommendations for Sustainable Water Management

- Emphasizes the importance of transboundary agreements for effective water management.
- Calls for increased private investment, estimating an annual investment requirement of approximately US $114 billion until 2030 to achieve universal access to water.
- Advocates for decoupling water usage from production in industries, citing examples like Tata Chemicals' significant reduction in groundwater usage through recycling and better water management practices.

- Water scarcity can escalate local disputes, as evident in regions like the Sahel, potentially leading to increased migration and tensions in settlement areas.

- Water is essential for maintaining environmental integrity and plays a significant role in job creation, particularly in low and lower-middle-income countries where a substantial portion of jobs relies on water.

- Water scarcity disproportionately affects girls and women, undermining their education, economic participation, and safety, highlighting the need for inclusive water management strategies.

7. Quacquarelli Symonds (QS) Rankings

Why is it in the news?

- **Quacquarelli Symonds (QS)**, the London-based higher education analytics firm has announced its rankings.

More about the news:

- **Jawaharlal Nehru University (JNU)** is India's top-ranked university in the QS World University Rankings.

- IIM-Ahmedabad is among the top 25 globally for business and management studies.

- IIM-Bangalore and IIM-Calcutta are among the top 50 globally for management studies.

- Saveetha Institute of Medical and Technical Sciences in Chennai is ranked 24th globally for dentistry studies.

- India has shown significant progress in research capability, with a 20% improvement in Citations per Paper and a 16% growth in the International Research Network. However, there was a 5% decrease in the H Index, which measures research productivity and impact.

- India is one of the world's most rapidly expanding research centres, with a 54% increase in research output from 2017 to 2022.

- India is the fourth-largest producer of research globally, trailing behind China, the United States, and the United Kingdom.

- In the broader Asian regional context, India ranks second in the number of universities featured (69) after mainland China.

- India ranks fourth in the total number of ranked entries (454) after China, Japan, and South Korea.

- India ranks fifth regionally for the number of top 200 entries and sixth for the number of top 100 entries.

Challenges:

- India faces challenges in enhancing research standards, increasing research impact, and securing citations in premier global journals.

- Only 15% of India's research was cited in top-tier journals between 2017 and 2021.

QS World University Rankings

- QS World University Rankings are released annually by Quacquarelli Symonds (QS).

- The rankings evaluate the performance and quality of universities worldwide.

- The methodology considers indicators such as academic reputation, faculty student ratio, employer reputation, sustainability, employment outcomes, international research network, citations per faculty, international faculty ratio, and international student ratio.

- They provide rankings by subject, region, student city, business school, and sustainability.

8. Over 60 products from across India earn GI tags

Why is it in the news?

- Over 60 products from various regions of India have been granted the Geographical Indication (GI) tag, marking a significant milestone in the protection of traditional and historic products.

- This is the first time such a large number of GI tags have been awarded simultaneously, highlighting the increasing recognition and importance of preserving India's cultural heritage.

More about the news:

- Among the products receiving the GI tag are traditional crafts from **Assam**, including Asharikandi terracotta craft, Pani Meteka craft, Sarthebari metal craft, Jaapi (bamboo headgear), Mishing handloom products, and the Bihu dhol.

- Thirteen other products from Assam, such as the Bodo Dokhona (traditional attire), Bodo Eri silk, Bodo Jwmgra (scarf), and Bodo Gamsa (traditional dress for men), have also been granted GI tags.

- The famous Banaras Thandai, a traditional drink made with milk, nuts, seeds, and spices, has also received the GI tag, along with other products like Banaras Tabla, Banaras Shehnai, Banaras Lal Bharwamirch, and Banaras Lal Peda.

- **Tripura** secured two GI tags for Pachra Rignai (traditional dress) and Matabari Peda (sweet preparation), while **Meghalaya** earned recognition for Garo Textile weaving, Lyrnai Pottery, and Chubitchi.

GI Tag

- The GI tag is awarded to products with specific geographical origins and unique characteristics related to their location, ensuring their authenticity and promoting local economies.

- With over 635 products in India now holding the GI tag, efforts to protect and preserve the country's rich cultural and culinary heritage continue to gain momentum.

Eri Silk :

- Eri silk is produced from the caterpillar of Samia ricini, found in northeast India and parts of China and Japan.

- The name "eri" is derived from the Assamese word "era," meaning "castor," as the silkworm primarily feeds on castor plants.

- Eri silk is also known as **endi** or **errandi** in India.

- Eri silk, often referred to as the fabric of peace, is processed without killing the silkworm. This process results in a silk called Ahimsa silk, where moths leave the cocoon, and the cocoons are then harvested for spinning. The eri silkworm is the only completely domesticated silkworm besides Bombyx mori, making it significant in silk production and sustainable textile practices.

9. Post Office at Bharati Station in Antarctica

Why is it in the news?

- The Bharati Branch Post Office at Bharati Station in **Antarctica** was inaugurated by the Chief Postmaster General Maharashtra Circle, along with the introduction of the new PIN code **MH-1718**, marking a significant development in India's postal services in the polar region.

More about the news:

- In 1984, India established its first post office in Antarctica at Dakshin Gangotri.

- However, Dakshin Gangotri was later submerged under ice during the late 1980s, leading to its decommissioning.

- On January 26, 1990, a new post office branch was established at India's Maitri research station in Antarctica.

- Recently, the Bharati Branch Post Office was inaugurated at Bharati Station of Antarctica, accompanied by the introduction of a new PIN code, MH-1718.

- Maitri and Bharati Post Offices are research bases of India in Antarctica, located approximately 3,000 kilometres apart. Both post offices operate under the purview of the Goa Postal Division.

- Letters intended for Antarctica are routed through the National Centre for Polar and Ocean Research (NCPOR) in Goa, serving as a crucial hub for India's polar endeavours.

10. Usha Mehta

Why is it in the news?

- The film "**Ae Watan Mere Watan**" focusing on the life of Indian freedom fighter **Usha Mehta** has recently been released.

About Usha Mehta

- Usha Mehta was born in 1920 in the village of Saras, near Surat in Gujarat.

- She followed Mahatma Gandhi's principles and was often referred to as Ushaben.

- At the age of eight in 1928, she participated in a protest march against the Simon Commission.

- During the Quit India Movement on August 14, 1942, she and her associates established the **Secret Congress Radio**, which commenced broadcasting on August 27.

- Congress Radio was one of India's earliest radio networks, utilized by Gandhi to advocate for Independence.

- Usha Mehta, along with Babubhai Khakar, Vithalbhai Jhaveri, and Chandrakant Jhaveri, played crucial roles in organizing Congress Radio.

- To avoid detection by the British, they frequently changed transmission locations.

- The operation was compromised when Nariman Printer, one of the associates, was captured and revealed the location of Congress Radio in exchange for immunity.

- Usha Mehta, along with Babubhai Khakar and Chandrakant Jhaveri, faced harsh sentences, while Vithalbhai Jhaveri and Nanak Gainchand Motwane were cleared of charges.

- Usha Mehta was released from Pune's Yerawada Jail in March 1946 and is celebrated in nationalist media as "**Radioben**".

11. Shyamji Krishna Varma (1857-1930)

Why is it in the news?

- The Prime Minister paid homage to revolutionary freedom fighter **Shyamji Krishna Varma** on his Punya Tithi, honoring his contributions to India's independence struggle.

More about the news:

- Shyamji Krishna Varma was a revolutionary freedom fighter born in modern-day Gujarat.

- He established the Indian Home Rule Society and India House in London, which served as centres for anti-British activities and the propagation of India's independence.

- Varma advocated for India's freedom through his writings in the journal "**Indian Sociologist**," spreading awareness and rallying support for the cause.

- In 1905, he faced consequences for his activism when he was barred from practicing law by the Inner Temple in London due to charges of sedition against the colonial government.

- His life and actions exemplified values of patriotism and selfless service to the nation, inspiring generations of freedom fighters and nationalists in India's struggle for independence.

12. Vasuki Indicus: 50ft Snake Fossil Found in Gujarat

Why is it in the news ?

- A fossil discovered in Gujarat's Kutch in 2005, initially thought to be from a giant crocodile, has been identified as belonging to "Vasuki Indicus," one of the largest snakes ever to have existed on Earth.

About Vasuki Indicus

- Named "Vasuki Indicus" by IIT Roorkee scientists after the mythological snake often depicted encircling the neck of the Hindu deity Shiva.

- Estimated length between 11m (36ft) and 15m (49.22ft), making it one of the largest snakes ever to exist. Belonged to the extinct Madtsoiidae snake family, with close relatives identified as Titanoboa and Python. Size indicates it was a slow-moving ambush predator, similar to an anaconda, and likely employed constriction as its primary method of prey capture.

Age and Geological Context

- Fossil recovered from the Panandhro Lignite Mine in Kutch, dating back to the Middle Eocene period, around 47 million years ago.

- Indicates existence during a warm geological interval with average temperatures estimated at 28°C.

- Suggests an extinct relic lineage originating in India, dispersing into North Africa through southern Eurasia after the India-Asia collision.

Significance for India

- Underscores India's rich biodiversity and contributes to its status as a megadiverse country.

- Provides insights into the evolutionary process, continental shifts, and India's role in the origin of various species, particularly reptiles.

- Offers valuable data for understanding ancient ecosystems and climate conditions. Offers opportunities for further scientific exploration and research in paleontology and evolutionary biology, enhancing our understanding of prehistoric life on Earth.

AMIGOS IAS MAY 2024 Magazine (PYQs)

PRELIMS

l) **Consider the following statements: (2020)**

a) According to the Constitution of India a person who is eligible to vote can be made a minister in a State for six months even if he/she is not a member of the Legislature of that State.

b) According to the Representation of People Act, 1951, a person convicted of a criminal offense and sentenced to imprisonment for five years is permanently disqualified from contesting an election even after his release from prison.

Which of the statements given above is/are correct?

(a) 1 only   (b) 2 only

(c) Both 1 and 2   (d) Neither 1 nor 2

Answer: (d)

2) **With reference to the 'National Intellectual Property Rights Policy', consider the following statements:**

a) It reiterates India's commitment to the Doha Development Agenda and the TRIPS Agreement.

b) Department of Industrial Policy and Promotion is the nodal agency for regulating intellectual property rights in India.

Which of the above statements is/are correct?

(a) 1 only   (b) 2 only

(c) Both 1 and 2   (d) Neither 1 nor 2

Ans: (c)

3) **Atal Innovation Mission is set up under the (2019)**

(a) Department of Science and Technology

(b) Ministry of Labour and Employment

(c) NITI Aayog

(d) Ministry of Skill Development, Entrepreneurship

Ans: (c)

4) **Hydrogen fuel cell vehicles produce one of the following as "exhaust" (2010)**

(a) NH3   (b) CH4

(c) H2O   (d) H2O2

Ans: (c)

5) **Under the Kisan Credit Card scheme, short-term credit support is given to farmers for which of the following purposes?**

1) Working capital for maintenance of farm assets

2) Purchase of combine harvesters, tractors and mini trucks

3) Consumption requirements of farm households

4) Post-harvest expenses

5) Construction of family house and setting up of village cold storage facility

Select the correct answer using the code given below:

(a) 1, 2 and 5 only   (b) 1, 3 and 4 only

(c) 2, 3, 4 and 5 only   (d) 1, 2, 3, 4 and 5

Ans: (b)

6) **With the present state of development, Artificial Intelligence can effectively do which of the following? (2020)**

1) Bring down electricity consumption in industrial units

2) Create meaningful short stories and songs

3) Disease diagnosis

4) Text-to-Speech Conversion

5) Wireless transmission of electrical energy

Select the correct answer using the code given below:

(a) 1, 2, 3 and 5 only   (b) 1, 3 and 4 only

(c) 2, 4 and 5 only   (d) 1, 2, 3, 4 and 5

Ans: (b)

7) **With reference to Indian elephants, consider the following statements: (2020)**

1) The leader of an elephant group is a female.

2) The maximum gestation period can be 22 months.

3) An elephant can normally go on calving till the age of 40 years only.

4) Among the States in India, the highest elephant population is in Kerala.

Which of the statements given above is/are correct?

(a) 1 and 2 only   (b) 2 and 4 only

(c) 3 only   (d) 1, 3 and 4 only

Ans: (a)

8) **"Momentum for Change: Climate Neutral Now" is an initiative launched by (2018)**

(a) The Intergovernmental Panel on Climate Change

(b) The UNEP Secretariat

(c) The UNFCCC Secretariat

(d) The World Meteorological Organisation

Ans: (c)

9) **In India, 'extend producer responsibility' was introduced as an important feature in which of the following? (2019)**

(a) The Bio-medical Waste (Management and Handling) Rules, 1998

(b) The Recycled Plastic (Manufacturing and Usage) Rules, 1999

(c) The e-Waste (Management and Handling) Rules, 2011

(d) The Food Safety and Standard Regulations, 2011

Ans: (c)

10) **How is the National Green Tribunal (NGT) different from the Central Pollution Control Board (CPCB)? (2018)**

1) The NGT has been established by an Act whereas the CPCB has been created by an executive order of the Government.

2) The NGT provides environmental justice and helps reduce the burden of litigation in the higher courts whereas the CPCB promotes cleanliness of streams and wells, and aims to improve the quality of air in the country.

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

Ans: (b)

11) **Why is there a great concern about the 'microbeads' that are released into environment? (2019)**

(a) They are considered harmful to marine ecosystems.

(b) They are considered to cause skin cancer in children.

(c) They are small enough to be absorbed by crop plants in irrigated fields.

(d) They are often found to be used as food adulterants.

Ans: (a)

12) **International Labour Organization's Conventions 138 and 182 are related to (2018)**

(a) Child Labour

(b) Adaptation of agricultural practices to global climate change

(c) Regulation of food prices and food security

(d) Gender parity at the workplace

Ans: (a)

13) **Inclusive growth as enunciated in the Eleventh Five Year Plan does not include one of the following: (2010)**

(a) Reduction of poverty

(b) Extension of employment opportunities

(c) Strengthening of capital market

(d) Reduction of gender inequality

Ans: (c)

14) **The Multi-dimensional Poverty Index developed by Oxford Poverty and Human Development Initiative with UNDP support covers which of the following? (2012)**

1) Deprivation of education, health, assets and services at household level

2) Purchasing power parity at national level

3) Extent of budget deficit and GDP growth rate at national level

Select the correct answer using the codes given below:

(a) 1 only   (b) 2 and 3 only

(c) 1 and 3 only   (d) 1, 2 and 3

Ans: (a)

15) **Which of the following are the objectives of 'National Nutrition Mission'? (2017)**

1) To create awareness relating to malnutrition among pregnant women and lactating mothers.

2) To reduce the incidence of anaemia among young children, adolescent girls and women.

3) To promote the consumption of millets, coarse cereals and unpolished rice.

4) To promote the consumption of poultry eggs.

Select the correct answer using the code given below:

(a) 1 and 2 only   (b) 1, 2 and 3 only

(c) 1, 2 and 4 only   (d) 3 and 4 only

Ans: (a)

16) **In India, why are some nuclear reactors kept under "IAEA safeguards" while others are not? (2020)**

(a) Some use uranium and others use thorium

(b) Some use imported uranium and others use domestic supplies

(c) Some are operated by foreign enterprises and others are operated by domestic enterprises

(d) Some are State-owned and others are privately owned

Ans: (b)

17) **With reference to 'Initiative for Nutritional Security through Intensive Millets Promotion', which of the following statements is/are correct? (2016)**

1) This initiative aims to demonstrate the improved production and post-harvest technologies, and to demonstrate value addition techniques, in an integrated manner, with a cluster approach.

2) Poor, small, marginal and tribal farmers have a larger stake in this scheme.

3) An important objective of the scheme is to encourage farmers of commercial crops to shift to millet cultivation by offering them free kits of critical inputs of nutrients and micro irrigation equipment.

Select the correct answer using the code given below:

(a) 1 only   (b) 2 and 3 only

(c) 1 and 2 only   (d) 1, 2 and 3

Ans: (c)

18) **Which of the following is/are the characteristic/ characteristics of Indian coal? (2013)**

1) High ash content

2) Low sulphur content

3) Low ash fusion temperature

Select the correct answer using the codes given below:

(a) 1 and 2 only   (b) 2 only

(c) 1 and 3 only   (d) 1, 2 and 3

Ans: (a)

19) **The identity platform 'Aadhaar' provides open "Application Programming Interfaces (APIs)". What does it imply? (2018)**

1) It can be integrated into any electronic device.

2) Online authentication using iris is possible.

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

Ans: (c)

20) **Which one of the following statements is not correct? (2019)**

(a) Hepatitis B virus is transmitted much like HIV.

(b) Hepatitis B unlike Hepatitis C, does not have a vaccine.

(c) Globally, the number of people infected with Hepatitis B and C viruses arc several times more than those infected with HIV.

(d) Some of those infected with Hepatitis B and C viruses do not show the symptoms for many years.

Ans: (b)

Mains PYQs

1) 'Simultaneous election to the Lok Sabha and the State Assemblies will limit the amount of time and money spent in electioneering but it will reduce the government's accountability to the people'. Discuss. (2017)

2) Critically examine the aims and objectives of SCO. What importance does it hold for India? (2021)

3) In a globalized world, Intellectual Property Rights assume significance and are a source of litigation. Broadly distinguish between the terms-Copyrights, Patents and Trade Secrets. (2014)

4) How is efficient and affordable urban mass transport key to the rapid economic development in India? (2019)

5) 'Climate change' is a global problem. How India will be affected by climate change? How Himalayan and coastal states of India will be affected by climate change? (2017)

6) What are the impediments in disposing the huge quantities of discarded solid waste which are continuously being generated? How do we remove safely the toxic wastes that have been accumulating in our habitable environment? (2018)

7) Examine the main provisions of the National Child Policy and throw light on the status of its implementation. (2016)

8) COVID 19 pandemic accelerated class inequalities and poverty in India. Comment. (2020)

9) Despite Consistent experience of high growth, India still goes with the lowest indicators of human development. Examine the issues that make balanced and inclusive development elusive. (2016)

10) Discuss the main objectives of Population Education and point out the measures to achieve them in India in detail. (2021)