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SOURCES



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Important News Articles

GS II

1. Jaishankar meets Wang Yi, says LAC must be respected – The Hindu

Relevance:

GS II – India and its Neighbourhood relations

Prelims Takeaway

- LAC

Context:

- Since April-May 2020, the People's Liberation Army (PLA) of China has crossed the Line of Actual Control (LAC), occupying Indian territory.
- The Indian government has been cautious in addressing the China issue.

Why in News?

- During the 15th BRICS Summit, the Indian PM and Chinese President agreed to intensify efforts for disengagement and de-escalation along the LAC in eastern Ladakh.
- Attention is now on the plans being devised by military commanders for troop pullback.

What is the Line of Actual Control (LAC)?

- Separates Indian-controlled territory from Chinese-controlled territory.
- Divided into three sectors: eastern (Arunachal Pradesh, Sikkim), middle (Uttarakhand, Himachal Pradesh), and western (Ladakh).
- India claims LAC is 3,488 km long; China claims around 2,000 km.
- India's official boundary (Survey of India) includes Aksai Chin and Gilgit-Baltistan.

LAC vs Line of Control (LoC) with Pakistan:

- LoC established post-1948 ceasefire, formalized in 1972 under the Shimla Agreement.
- LAC is not internationally recognized or demarcated, unlike the LoC.

Disagreement over the LAC:

- Major disagreements in the western sector, stemming from 1959 Chinese PM Zhou Enlai's letters to PM Nehru.
- India rejected China's 1959 and 1962 LAC claims post-1962 War.
- Doklam crisis (2017) highlighted China's assertion of the "1959 LAC."

Controversy in Ladakh:

- Aksai Chin was not part of British India; boundary undefined in western Ladakh.

Current Arrangement:

- India accepted LAC conceptually in 1993.
- Signed Agreement to Maintain Peace and Tranquility at LAC.
- Joint Working Group tasked to clarify LAC alignment.

Plans for De-escalation in Eastern Ladakh:

- Details of troop withdrawal and disengagement phases under discussion since 2020.
- Corps Commanders dialogue resulted in limited disengagement and creation of buffer zones.

Legacy Issues:

- Depsang Plains and Demchok issues predate 2020 incursions.
- PLA incursion in Depsang Plains (2013) near Daulat Beg Oldie unresolved.
- Demchok issues at ChardingNinglung Nullah (CNN) junction persist.

2. After Mizoram, Nagaland, Meghalaya declines 'mandir' tag for Ayushman centres- The Hindu

Relevance:

GS II – Health related issues

Prelims Takeaway

- ABHA

Context:

- Meghalaya has joined Mizoram and Nagaland in refusing to rename their health and wellness centres as Ayushman Arogya Mandirs.
- The refusal is noteworthy given the religious demographics: about 75% of Meghalaya's population follows Christianity, similar to the 90% in Mizoram and Nagaland.

What is ABHA?

- ABHA (Ayushman Bharat Health Account) is a unique 14-digit number assigned to individuals to link all their health records, fostering a digital health ecosystem.
- Enrollment in the Ayushman Bharat Digital Mission (ABDM) is free, enabling individuals to generate a Health ID or ABHA.

Features:

- **Electronic Health Records (EHR):** ABHA integrates EHRs, enabling efficient storage and retrieval of patient information, thus maintaining medical histories and streamlining healthcare delivery.
- **Portability:** These accounts are portable across various healthcare providers under the Ayushman Bharat Scheme, allowing beneficiaries to access services seamlessly across different locations.
- **Transparency and Accountability:** By digitizing transactions and maintaining electronic records, ABHA enhances transparency and accountability in the healthcare system.

What is Ayushman Bharat Yojana?

- **Ayushman Bharat Yojana:** Also known as the **Pradhan Mantri Jan Arogya Yojana (PMJAY)**, this flagship scheme was launched in September 2018 following the recommendations of the National Health Policy 2017, aiming to achieve Universal Health Coverage (UHC).
- **Ayushman Bharat Digital Mission (ABDM):** This mission aims to develop the backbone necessary to support the integrated digital health infrastructure of India, bridging gaps among different stakeholders in the healthcare ecosystem through digital highways.

Recent Government Initiatives Related to Healthcare:

- **Health and Wellness Centres:** Announced in February 2018, these centres transform existing Sub Centres and Primary Health Centres into Health and Wellness Centres (HWCs). These HWCs are the foundation of Ayushman Bharat, offering Comprehensive Primary Health Care (CPHC), including maternal and child health services, non-communicable diseases management, free essential drugs, and diagnostic services.
- **Janaushadhi Kendra:** These centres ensure that quality generic medicines are available at affordable prices to all citizens.
- **eSanjeevani:** This national telemedicine service by the Ministry of Health and Family Welfare has become the world's largest documented telemedicine implementation in primary healthcare, providing digital health services to rural and remote communities.

3. Centre issues Scheme Guidelines for funding of testing facilities, infrastructure, and institutional support under the National Green Hydrogen Mission – The PIB

Relevance:

GS II – Government Policies and Interventions

Context:

- The Ministry of New and Renewable Energy has recently issued guidelines aimed at funding testing facilities, infrastructure, and institutional support under the National Green Hydrogen Mission. These guidelines focus on developing standards and a regulatory framework essential for the mission's success.
- The new guidelines will help identify gaps in the current testing facilities for green hydrogen components, technologies, and processes.
- It will facilitate the creation of new testing facilities and upgrade existing ones to ensure safe and secure operations.
- The scheme, with a total budget of ₹200 crore until the financial year 2025-26, is part of the broader ₹19,744 crore allocation under the mission.
- The National Institute of Solar Energy will act as the implementation agency for this scheme.

What is the National Green Hydrogen Mission?

- The National Green Hydrogen Mission is designed to incentivize the commercial production of green hydrogen, to position India as a net exporter of this fuel.
- The mission aims to foster demand creation, production, utilization, and export of green hydrogen.

Prelims Takeaway

- National Green Hydrogen Mission

Sub Schemes:

- **Strategic Interventions for Green Hydrogen Transition Programme (SIGHT):** This initiative will fund the domestic manufacturing of electrolysers and the production of green hydrogen.
- **Green Hydrogen Hubs:** States and regions with the potential for large-scale production or utilization of hydrogen will be identified and developed as Green Hydrogen Hubs.

Objective:

- To establish a green hydrogen production capacity of at least 5 million metric tonnes (MMT) per annum by 2030.
- To add approximately 125 GW of renewable energy capacity by 2030.
- The mission is expected to attract investments over ₹8 lakh crore and create around six lakh jobs.
- It will help reduce fossil fuel imports by over ₹1 lakh crore and lower annual greenhouse gas emissions by nearly 50 MT.

Significance:

- The mission will contribute to the decarbonization of industrial, mobility, and energy sectors.
- It aims to reduce dependence on imported fossil fuels and feedstock.
- It will foster the development of indigenous manufacturing capabilities and create employment opportunities.
- The mission encourages the development of new technologies, such as efficient fuel cells.

Potential:

- India has favorable geographic conditions and abundant sunlight and wind resources, making it ideal for green hydrogen production.
- Green hydrogen technologies are particularly useful in sectors where direct electrification is challenging, such as heavy-duty, long-range transport, certain industrial sectors, and long-term power storage.
- The early stage of the industry presents an opportunity to create regional hubs that export high-value green products and provide engineering, procurement, and construction services.

Challenges:

- **Nascent Stage Globally:** Green hydrogen development is still in its early stages worldwide. While India can emerge as a major producer, it currently lacks the necessary infrastructure to support all intermediary steps.
- **Economic Sustainability:** A significant challenge is the economic viability of green hydrogen production. For hydrogen to be commercially viable, it must be cost-competitive with conventional fuels and technologies.

What is Green Hydrogen?

- Hydrogen is a crucial industrial fuel used in producing ammonia, steel, refining processes, and electricity.
- Currently, most hydrogen is derived from coal and is referred to as 'black' or 'brown' hydrogen.
- Pure hydrogen is rare; it usually exists in compounds like H₂O (water). Electrolysis, using renewable electricity, can split water into oxygen and hydrogen, producing green hydrogen.
- Different colors indicate the electricity source used to produce hydrogen, such as brown (coal), grey, blue, and green (renewable sources).

Current Production:

- Green hydrogen accounts for less than 1% of global hydrogen production due to high costs.
- Production costs vary: black hydrogen (USD 0.9-1.5/kg), grey hydrogen (USD 1.7-2.3/kg), blue hydrogen (USD 1.3-3.6/kg), and green hydrogen (USD 3.5-5.5/kg).

Need for Producing Green Hydrogen:

- Hydrogen has a high energy content per unit weight, making it a valuable energy source, even for rocket fuel.
- Green hydrogen is one of the cleanest energy sources, with near-zero emissions. It is suitable for fuel cells in cars and energy-intensive industries like fertilizer and steel manufacturing.
- Global efforts to build green hydrogen capacity aim to enhance energy security and reduce carbon emissions.

Other Renewable Energy Initiatives:

- Jawaharlal Nehru National Solar Mission (JNNSM)
- International Solar Alliance
- PM-KUSUM
- National Wind-Solar Hybrid Policy
- Rooftop Solar Scheme

Way Forward:

- Incentives are needed to encourage industrial hydrogen users to adopt green hydrogen.
- Developing supply chains, including pipelines, tankers, storage, and distribution networks, is crucial.
- A comprehensive skill development program is essential to train workers for the green hydrogen economy.
- Leveraging low-cost renewable plants and cost-curtailment experience from solar and wind auctions can reduce green hydrogen costs.
- India's young demographic and thriving economy present significant market potential for hydrogen-based technologies.

4. Quad Senior Officials Meeting – Ministry of External Affairs

Relevance:

GS II – International Groupings

Context:

- Senior officials from Quad member countries have reviewed the progress made by various Quad Working Groups in achieving the commitments made at the grouping's summit in May 2023, the Ministry of External Affairs (MEA) said on Thursday.

Prelims Takeaway

- Malabar Exercise
- Indo-Pacific

Introduction to Quad

- The Quadrilateral Security Dialogue, commonly known as Quad, comprises four democratic nations: India, Australia, the US, and Japan.
- Originating from a proposal by Japanese Prime Minister Shinzo Abe in 2007, Quad aims to foster a stable, open, and prosperous Indo-Pacific region.
- Formally established in 2017, Quad's core objectives include ensuring free and unhindered maritime trade and upholding regional security.

Recent Developments and Review

- Recently, senior officials from Quad member countries assessed the progress of various working groups formed after the May 2023 summit.
- The Ministry of External Affairs highlighted the commitment to achieving the goals set during the summit, emphasizing cooperation in maritime security and economic advancement.
- Strategic Opportunities for India within the Quad Framework

Countering China's Influence

- Quad offers India a strategic platform to counterbalance China's dominance, particularly in the maritime domain.
- The Indian Ocean plays a crucial role in Chinese trade routes, making maritime cooperation pivotal in maintaining regional stability.
- Through collaboration with Quad partners, India can potentially disrupt Chinese trade routes, enhancing its regional influence.

Emerging as a Net Security Provider

- Positioned at the heart of the Indo-Pacific region, India can play a pivotal role as a net security provider.
- Activities such as humanitarian aid, disaster relief, anti-piracy operations, and infrastructure development can strengthen India's regional leadership.
- By aligning with Quad nations, India aims to promote security and growth across the Indo-Pacific, countering imperialist policies and ensuring regional stability.

Challenges and Issues

Undefined Strategic Vision

- Despite its potential, Quad faces challenges due to the absence of a clearly defined strategic mission.

- The focus primarily on maritime security raises questions about the grouping's inclusivity and scope beyond the Indo-Pacific.

India's Reluctance Towards Alliance Systems

- India's historical aversion to formal alliance systems poses a hurdle in deepening Quad's strategic engagement.
- This stance contrasts with the more integrated security approaches of other Quad members, impacting the group's cohesion and effectiveness.
- Future Directions and Recommendations

Clarifying the Indo-Pacific Vision

- Quad nations need to articulate a comprehensive Indo-Pacific strategy that aligns economic interests with security imperatives.
- Clarifying objectives and enhancing transparency can bolster Quad's credibility as a regional security framework.

Expansion and Inclusivity

- India advocates for broadening Quad's membership to include key Indo-Pacific stakeholders like Indonesia and Singapore.
- By expanding partnerships, Quad can strengthen its capacity to address regional challenges and promote collective security.

Conclusion

- Quad represents a critical framework for India and its partners to safeguard regional interests and promote prosperity in the Indo-Pacific.
- Addressing strategic challenges and expanding collaborative efforts will be essential in realizing Quad's potential as a stabilizing force in the region.

5. 'Need your help in plugging leak of entrance exam papers': Centre tells states - Indian Express

Relevance: Government Policies and Interventions for Development in various sectors and Issues arising out of their Design and Implementation.

Prelims Takeaway

- NTA

News: The Central government has reached out to the states for help in ensuring the integrity of its entrance tests.

Highlights:

- The Home Secretary held a meeting with all state Chief Secretaries and DGPs recently to seek their assistance in overseeing the conduct of upcoming tests.
- During the meeting, the Home Secretary requested the states to help introduce an additional layer of oversight for the exams by appointing one civil and one police observer for each exam centre in their respective states.
 - An observer is charged with the responsibility of ensuring that the exam is fair and free of any malpractices.
- In addition to this, states were also asked to appoint one state-level nodal officer to coordinate with the exam conducting agency.
- Currently, there is usually one observer appointed to each test centre by the exam conducting agency.
- However, controversy over the integrity of several centrally conducted entrance tests, including several arrests related to the alleged leak of the NEET-UG paper, has forced the government to review its systems for all entrance tests.
- So in addition to the observer appointed by the exam conducting agency, it has been decided that the parent ministry will also have a representative

GS III

6. Govt prepares plan for climate-resilient farming – Indian Express

Relevance:

GS III – Indian Agriculture

Context:

- The Union government is set to introduce a comprehensive framework aimed at promoting climate-resilient agriculture across 50,000 villages situated in climatically vulnerable districts. This initiative falls under a national programme for climate-resilient agriculture, which the Ministry of Agriculture and Farmers' Welfare is poised to launch as part of its 100-day agenda. The Union Cabinet is expected to approve a proposal for this programme soon, according to a reliable source.

Prelims Takeaway

- Agriculture related schemes and techniques in news

Major Impacts of Climate Change on Indian Agriculture:

- **Changes in Rainfall Patterns:**
 - Climate change has caused significant alterations in rainfall patterns, affecting the timing, intensity, and distribution of rainfall.
 - These changes can lead to droughts, floods, and erratic rainfall, all of which negatively impact agricultural productivity.
 - For instance, the delayed and deficient monsoon rains in 2019 resulted in reduced crop yields across many regions in India.
- **Increased Temperature:**
 - Rising temperatures adversely affect crop growth and development.
 - High temperatures during the growing season can lead to decreased crop yields and lower the nutritional value of crops. Additionally, heat stress can harm livestock health and productivity.
 - Recent heatwaves in India have particularly impacted heat-sensitive crops like wheat and rice, reducing their yields.
- **Shifting Pest and Disease Patterns:**
 - Climate change alters the distribution and abundance of pests and diseases, complicating agricultural pest management.
 - Changes in temperature and rainfall patterns can favor the spread of certain pests and diseases, negatively impacting crop health.
 - For example, the increased incidence of pests like the pink bollworm has harmed cotton production in India, and locust swarms from the Somalia region due to erratic rain have also posed significant challenges.
- **Water Scarcity:**
 - Climate change affects water availability, particularly in regions reliant on rainfall or snowmelt for irrigation.
 - Altered precipitation patterns and melting glaciers can result in water scarcity, especially during crucial crop growth stages, reducing agricultural productivity and increasing competition for water resources.
- **Changes in Cropping Patterns:**
 - Climate change influences the suitability of various crops in different regions, necessitating adjustments in cropping patterns to maintain productivity.
 - Some crops may become less viable, while others may become more suitable. For instance, on an all-India basis, climate change is projected to boost coconut production.
- **Increased Extreme Weather Events:**
 - Climate change has been linked to a rise in extreme weather events such as cyclones, storms, and hailstorms, causing significant damage to crops, livestock, and infrastructure, leading to yield losses and economic hardships for farmers.
 - A recent example is Cyclone Biporjoy.

Way Forward:

- **From Input-Intensive to Knowledge-Intensive Agriculture:**
 - India's diverse farming practices necessitate the engagement of diverse viewpoints in a national dialogue to identify suitable solutions for the future.
 - The advanced world is moving towards precision farming using sensors and scientific tools for exact practices and input application.
 - Adopting high-tech, precise farming practices in India can reduce average costs, increase farmers' incomes, and address many challenges related to scale.
- **Intercropping and Agroforestry:**
 - Growing different crops together in the same field or integrating trees with crops can enhance biodiversity, reduce soil erosion, and increase climate resilience.
 - Intercropping legumes with cereals not only provides additional income but also improves soil fertility through nitrogen fixation.
 - Promoting the cultivation of non-traditional crops that are more resilient to climate extremes can reduce dependency on a single crop and mitigate risks. For instance, promoting drought-tolerant millets can help farmers adapt to changing climatic conditions.
- **Climate-Smart Water Management:**
 - Efficient water management is crucial for achieving climate resilience in agriculture, especially in water-stressed regions.
 - Implementing climate-smart water management practices can enhance agricultural productivity while conserving water resources.
 - Constructing ponds, check dams, and farm ponds to capture and store rainwater can help recharge groundwater and provide irrigation during dry spells. Farmers can use this stored water during droughts or for supplementary irrigation, thus reducing dependence on erratic rainfall patterns.

7. Global Conclave on Plastic Recycling and Sustainability (GCPRS) begins today at Bharat Mandapam – The PIB

Relevance:

GS III – Environmental Conservation

Context:

- The Global Conclave on Plastic Recycling and Sustainability (GCPRS) commenced at Bharat Mandapam, Pragati Maidan. Key dignitaries included Chief Guest Smt. Nivedita Shukla Verma, Secretary, Union Ministry of Chemicals and Fertilizers, and Guest of Honor Smt. Mercy Epao, Joint Secretary, Union Ministry of Micro, Small and Medium Enterprises. Notable attendees also included industry leaders such as Shri Manish Dedhia (AIPMA President), Shri Kamal Nanavati (CPMA President), and other eminent personalities from related sectors.

Prelims Takeaway
<ul style="list-style-type: none"> • SWM Rules 2016 • Pollution

Common Sources of Plastic Pollution:

- Merchant ships discharge various wastes including plastic-based cargo, sewage, and medical equipment into oceans.
- Discarded fishing gear constitutes the largest ocean-based source of plastic pollution.
- Continental plastic litter, such as food wrappers, containers, bottles, and bags, enters oceans primarily through storm-water runoff.

Extent of Plastic Waste:

- **Global Scenario:**
 - Over 3 billion tonnes of plastic produced since 1950, with 60% ending up in landfills or natural environments.
 - Only 9% recycled, 12% incinerated, and the rest accumulating in landfills or the environment.
- **Plastic Waste in India:**
 - India generates approximately 26,000 tonnes of plastic daily, with over 10,000 tonnes remaining uncollected.
 - The plastic processing industry is expected to grow to 22 million tonnes annually by 2020, with a significant portion being single-use plastic.

- Per capita plastic consumption in India is less than 11 kg, significantly lower than many developed countries.

Impact of Plastic Waste:

- **Economic Losses:** Plastic waste impacts tourism revenue, particularly evident in regions like the Andaman and Nicobar Islands.
- **Implications for Animals:** Marine life faces ingestion and entanglement risks, leading to mortality and ecosystem disruption.
- **Implications for Human Health:** Chemicals leached from plastics pose health risks, affecting endocrine systems and potentially causing genetic disorders.
- **Environmental Impacts:** Land, air, and water pollution from plastic waste affect habitats, water quality, and contribute to invasive species transport.

Challenges:

- **Mismanaged Plastic Waste:** Inadequate management leads to widespread pollution, including the formation of oceanic garbage patches.
- **Spurious Biodegradable Plastics:** Lack of rigorous testing allows fake biodegradable products to enter the market.
- **Impact of E-Commerce:** Online retail and food delivery services contribute to increasing plastic waste in urban areas.

Solutions: Plastic Waste Management

- **Reduce:** Support policies like plastic bag taxes and restrain on manufacturing, promote alternatives like biodegradable plastics.
- **Reuse:** Encourage the reuse of plastics to reduce demand for new products.
- **Recycle:** Promote plastic recycling to generate economic benefits, create employment, and reduce environmental impact.

Conclusion:

- Effective management of plastic waste is crucial to mitigate its detrimental effects on ecosystems, human health, and the economy. India's commitment to eliminating single-use plastics by 2022 and promoting recycling initiatives marks significant steps toward sustainable plastic waste management.

8. New model of Producer Price Index to capture input prices better on the anvil - Indian Express

Relevance: Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment.

News: The Department of Promotion of Industry and Internal Trade (DPIIT) has finalized a new model of the Producer Price Index (PPI) and has shared it with the International Monetary Fund (IMF).

Highlights:

- This new model is to efficiently capture input prices in the economy
 - In line with most G20 economies the government is slowly moving from the WPI to PPI.
- The government is also working towards changing the base year of the wholesale price index (WPI) from 2011-12
 - The DPIIT in 2021 had issued a draft technical report of a working group, which had suggested revising the base year of WPI.
- Consultations regarding the same have been undertaken with the ministry of statistics and programme implementation (MoSPI)

Prelims Takeaway

- PPI
- WPI

Editorials, Gists and Explainers

9. Should India review its Myanmar policy in view of the humanitarian crisis? – The Hindu

Relevance:

GS II - India and its Neighbourhood, Bilateral Groupings & Agreements

Context:

- The ongoing conflict between **Ethnic Armed Organisations (EAOs)** and the **military junta** in Myanmar has led to a severe humanitarian crisis. The United Nations Security Council discussed this issue on and has suggested that **India should review its policy** and consider establishing communication channels with the EAOs to aid the affected civilians.

Significance of India-Myanmar Relationship:	Areas of Collaborative Cooperation:
<ul style="list-style-type: none"> Geopolitical Importance: <ul style="list-style-type: none"> Gateway to Southeast Asia: Myanmar is a crucial land bridge connecting South Asia to Southeast Asia. Its proximity to India's northeastern states establishes a strategic link, enhancing regional connectivity. Bay of Bengal Connectivity: The shared maritime boundary in the Bay of Bengal opens opportunities for maritime cooperation, fostering economic and strategic collaboration. Regional Power Balancing: A strong relationship with Myanmar helps India maintain regional power balance, countering China's growing influence in the region. Strategic Significance: <ul style="list-style-type: none"> Strategically Significant Neighbourhood: Myanmar, a large multi-ethnic nation, is located in a strategically important area, impacting its five neighbouring countries: China, Laos, Thailand, Bangladesh, and India. Neighbourhood First Policy: India's "Neighborhood First" policy emphasizes the importance of a robust, cooperative, and mutually beneficial relationship with Myanmar. Act East Policy: Myanmar is a key component of India's Act East Policy, aimed at fostering economic, strategic, and cultural ties with the Asia-Pacific region. Multilateral Engagement: Myanmar's membership in SAARC, ASEAN, BIMSTEC, and Mekong Ganga Cooperation adds a regional dimension to bilateral relations, aligning with India's "Act East" policy. 	<ul style="list-style-type: none"> Bilateral Trade: <ul style="list-style-type: none"> Trade Relations: India is Myanmar's fifth-largest trading partner, with bilateral trade reaching USD 1.03 billion in 2021-22. Economic Opportunities: Both countries aim to enhance trade, creating opportunities in agriculture, pharmaceuticals, information technology, and energy sectors. Energy Cooperation: <ul style="list-style-type: none"> Myanmar is vital for India's energy security, with an energy investment portfolio of over USD 1.2 billion, making it the largest recipient of India's investment in Southeast Asia's oil and gas sector. Investment in Infrastructure: <ul style="list-style-type: none"> Kaladan Multi-Modal Transit Transport Project: This project aims to connect Kolkata port in India with Sittwe port in Myanmar by sea, enhancing connectivity and trade. India-Myanmar-Thailand Trilateral Highway Project: This highway will link India's Manipur state with Myanmar and Thailand, promoting regional integration. Strategic Defense Partnership: <ul style="list-style-type: none"> Military Collaboration: India and Myanmar maintain a close defense partnership, conducting joint military exercises and providing training to the Myanmar Army. India-Myanmar Bilateral Army Exercise (IMBAX): This exercise aims to strengthen military ties and promote closer relations. Capacity Building Measures: <ul style="list-style-type: none"> Developmental Assistance: India has extended USD 2 billion in soft loans and provides developmental assistance tailored to Myanmar's needs, including setting up higher education and research institutions. Disaster Response: India supports capacity building in disaster risk mitigation and strengthening Myanmar's National Disaster Response Mechanism. Humanitarian Assistance: India has provided aid during crises, such as COVID-19 and natural calamities like Cyclone Mora (2017), Cyclone Komen (2015), and the 2010 Shan State earthquake. Cultural Connectivity: <ul style="list-style-type: none"> Cultural and Historical Ties: Shared Buddhist heritage and colonial history strengthen diplomatic relations and mutual understanding. Indian Diaspora: The Indian diaspora, constituting about 4% of Myanmar's population, plays a significant role in the economy through business, trade, and investment.

Key Issues in India-Myanmar Relationship:

- Internal Security Concerns:**
 - Porous Border:** The India-Myanmar border is poorly guarded and located in an underdeveloped, insurgency-prone region, facilitating illegal activities by terrorist and insurgent groups.
 - Insurgent Groups:** Various Indian insurgent groups have established camps in Myanmar's border areas, posing security challenges.
- Free Movement Regime (FMR):** While FMR benefits local populations and enhances relations, it has also facilitated illegal immigration, drug trafficking, and arms trade.
- Triangular Power Struggle:** Internal Strife: Myanmar's ongoing internal conflict post-military coup has led to persistent civil unrest, with no clear resolution in sight.

- **China's Influence:** China, Myanmar's largest investor and trading partner, has solidified its influence through significant infrastructure projects, posing a challenge for India.
- **Infrastructure Project Delays:** Delays in completing collaborative projects like the Kaladan Multi-Modal Transit Transport Project and Sittwe port have hindered economic cooperation.
- **Rohingya Crisis:** The Rohingya crisis has strained India-Myanmar relations, with security concerns and resource burdens cited by India as reasons for its stance.

Way Forward:

- **Strategic Diplomacy:**
 - **Regulate Free Movement Regime:** Effectively manage FMR while preserving cross-border connections, upgrading infrastructure, and formalizing trade at entry points.
 - **Engage Multiple Stakeholders:** Balance relations with the military government while engaging with pro-democracy stakeholders.
 - **Balance China's Influence:** Pursue strategic partnerships and economic collaborations to counterbalance China's influence.
- **Collaborative Instruments:**
 - **Promote Two-way Trade:** Address trade imbalances by diversifying trade relations and exploring new sectors for collaboration.
 - **Accelerate Infrastructure Projects:** Ensure timely completion of joint projects to boost connectivity and economic cooperation.
 - **Enhanced Security Cooperation:** Collaborate on counterinsurgency measures, intelligence-sharing, and joint operations.
- **Track II Diplomacy:**
 - **Cultural Exchange:** Strengthen cultural ties through exchange programs, joint cultural events, and educational collaborations.
 - **Organize Peace Conclaves:** Consider hosting a Peace Assembly with Quad and ASEAN representatives to address human rights issues and support regional stability.

Conclusion:

- India and Myanmar have much to gain from each other, forming a reciprocal dynamic that underpins their bilateral relationship. By actively engaging in collaborative efforts and committing to regional peace and stability, both nations can forge a forward-looking alliance.

10. The shape of a five-year climate agenda for India - The Hindu

Relevance: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.

Context:

- As the new government settles in, some of its choices would be pivotal to how India structures its economic path in a sustainable way, positions itself as the voice of the Global South at the right tables, and fights for climate finance and justice over the next five years.

India's transformation over Climate Change

- Over the last decade, India has moved on from being a hesitant participant reacting to developments in the global climate discourse to being a bold leader shaping narratives and institutions.
- First, it has laid the foundation for global institutions such as the International Solar Alliance, the Coalition for Disaster Resilient Infrastructure, and the Global Biofuels Alliance, as well as shaped the Green Development Pact under its G-20 presidency last year.
- Second, for the first time, India has started talking about bolder and more ambitious emission mitigation targets.

- The 2070 net-zero target and ambitious Nationally Determined Contributions (NDC) are milestones.
- Third, the creation of an Indian emissions carbon trading scheme, an institution that should operate for at least 30-40 years, is a case in point.

Plan for next five years

- The country could, sooner or later, host important international climate summits.
- If it were to host the United Nations Conference of Parties in 2028, it would need to be as successful as the G-20 Presidency.
- Deciding on what could potentially be the big wins in 2028 and socialising these across countries to stitch alliances and allay concerns must start right away.
- Alongside, India should continue doubling down on the narrative of equity in international forums, and create leadership space for itself in global institutions that can deliver climate finance.
- India has to adopt and strongly communicate sectoral emission reduction targets that go beyond the power sector.
- India has achieved significant progress in the power sector and will continue to do so to keep pace with its international non-fossil share-related and domestic renewable energy capacity targets.
- The next step is to broaden the target to other sectors. For instance, it could be related to the private mobility space, giving a clear target for zero-carbon two- and four-wheelers.

Sub-national climate action

- Finally, going deeper implies that sub-national climate action and resilience must come to the fore in this term of the government.
- The government should think about creating a Centre-State coordination group, incentivising State-level climate actions through the Sixteenth Finance Commission.
- Given India's federal structure, this recommendation does not mean centralising climate actions, but ensuring that State-level actions are better coordinated without compromising their autonomy.
- The new government should aim to take India's global climate leadership to the next level in its new term.



GEO IAS
—It's about quality—

Quick Look

1. Gharial Population in India - The Hindu

Context:

- A solitary female gharial has recently drawn significant attention in the Kaziranga National Park and Tiger Reserve in eastern Assam, temporarily overshadowing the one-horned rhino. Wildlife officials and experts are puzzled about how this gharial ended up in the Brahmaputra river section within the park. However, they agree that this nearly adult reptile could be crucial for reestablishing the gharial population in the river.

About:

- Gharials, also known as gavials, are a unique type of Asian crocodylian easily identified by their elongated, narrow snouts.
- The crocodylian family includes crocodiles, alligators, caimans, and more.
- India is home to three crocodylian species:
 - **Gharial (*Gavialis gangeticus*):** Listed as Critically Endangered on the IUCN Red List.
 - **Mugger crocodile (*Crocodylus palustris*):** Classified as Vulnerable by the IUCN.
 - **Saltwater crocodile (*Crocodylus porosus*):** Categorized as Least Concern by the IUCN.
- All three species are included in Appendix I of CITES and Schedule I of the Wild Life (Protection) Act, 1972, with the exception of Saltwater Crocodile populations in Australia, Indonesia, and Papua New Guinea, which are listed in Appendix II of CITES.

Habitat of Gharials:

- **Natural Habitat:** Found in the fresh waters of northern India.
- **Primary Habitat:** Chambal River (a tributary of the Yamuna).
- **Secondary Habitats:** Ghagra, Gandak, Girwa rivers (Uttar Pradesh), Ramganga river (Uttarakhand), and the Sone river (Bihar).

Significance:

- The population of gharials serves as a significant indicator of clean river water.

Conservation Efforts:

- **Breeding Centres:** Kukrail Gharial Rehabilitation Centre in Lucknow, Uttar Pradesh, and the National Chambal Sanctuary (Gharial Eco Park, Madhya Pradesh).

Threats:

- Increased river pollution
- Construction of dams
- Large-scale fishing operations
- Floods
- Illegal sand mining
- Poaching
- Additional Information:
 - The gharial's diet mainly consists of fish, and their presence indicates a healthy fish population in rivers.
 - Conservation programs have been in place for decades, yet the species continues to face significant threats from human activities.
 - Public awareness and involvement are critical for the successful conservation of gharials.
 - The discovery of the lone female gharial in Kaziranga could potentially lead to new insights and strategies for gharial conservation in India.

2. Radiation Biodosimetry – The Hindu

Context

- After a large-scale radiological event, such as an Improvised Nuclear Device or reactor accident, it is crucial to quickly identify individuals who have received significant radiation doses for timely administration of recently approved radiation sickness drugs. Prompt assessment also helps reassure those not significantly exposed, preventing hospital overcrowding.

What is Biodosimetry?

- Biodosimetry determines radiation exposure levels by analyzing changes in blood, urine, or hair, particularly useful when individuals lack personal radiation monitoring devices.

Key Assays

- **Dicentric Chromosome Assay (DCA)**
 - **Mechanism:** Measures chromosome aberrations in white blood cells, specifically dicentric chromosomes (DC), which form uniquely due to radiation.
 - **Procedure:** Lymphocytes are cultured, chromosomes spread and stained, and DCs are counted.
 - **Timeframe:** 2-3 days for results.
 - **Usage:** Effective for small-scale radiation accidents; limited throughput in large-scale events.
- **Cytokinesis Block Micronucleus Assay (CBMN)**
 - **Mechanism:** Detects micronuclei formation in dividing white blood cells, indicative of radiation exposure.
 - **Procedure:** Cells are divided but arrested before complete division to form binucleated cells.
 - **Timeframe:** About 3 days due to longer culturing.
- **Gamma-H2AX Assay**
 - **Mechanism:** Measures phosphorylated gamma-H2AX histone protein levels to segregate exposed from unexposed and determine radiation dose levels.
 - **Procedure:** No cell culturing needed; results within 6-8 hours.
 - **Timeframe:** Must be performed within 24 hours due to histone phosphorylation kinetics.

3. Swami Vivekananda – The PIB

Context:

- On the occasion of Swami Vivekananda's death anniversary, Prime Minister Narendra Modi honored his legacy, reaffirming a commitment to realize his vision of a prosperous and progressive society.

Contributions:

- Introduced Indian philosophies of Vedanta and Yoga to the world stage.
- Advocated 'neo-Vedanta,' interpreting Hinduism through a Western perspective, and emphasized the blend of spirituality with material progress.
- Emphasized the importance of education for the revitalization of India, promoting a 'man-making' and 'character-building' education.
- Gained global recognition for his address at the World Parliament of Religion in Chicago in 1893.
- Outlined four paths to achieve moksha (liberation from worldly attachments) in his books: Raja-yoga, Karma-yoga, Jnana-yoga, and Bhakti-yoga.
- Praised by Netaji Subhas Chandra Bose as the "maker of modern India."
- **Philosophical Impact:** Swami Vivekananda's teachings have had a profound influence on Indian and Western thought, inspiring countless individuals towards a path of self-realization and social service.
- **Literary Contributions:** His writings and speeches continue to be studied for their deep philosophical insights and practical guidance on personal and social development.
- **Legacy:** Swami Vivekananda's legacy endures through the ongoing work of the Ramakrishna Mission, which continues to uphold his vision of a harmonious, educated, and spiritually enriched society.

Associated Organisations:

- Chief disciple of 19th-century mystic Ramakrishna Paramhansa.
- Founded the Ramakrishna Mission in 1897, focusing on value-based education, cultural activities, healthcare, women's empowerment, youth and tribal welfare, and disaster relief and rehabilitation.
- Established the Belur Math in 1899, which became his permanent residence and is the headquarters of Ramakrishna Math and Ramakrishna Mission.

Recognition:

- His birth anniversary, National Youth Day, is celebrated with activities that inspire the youth to follow his ideals of courage, self-reliance, and commitment to social service.
- By reinterpreting his teachings and ideals, Swami Vivekananda laid the foundation for modern spiritual thought and education in India, leaving a legacy that continues to inspire and guide generations.

Prelims Track Question

Q1. Consider the following statement

Statement I: The Line of Actual Control (LAC) is a demarcation line that separates the Indian-controlled territory of Ladakh and the Chinese-controlled territory of Aksai Chin in the western Himalayas.

Statement II: It specifically represents the boundary between Arunachal Pradesh and Tibet, from Bhutan in the west to Myanmar in the east.

Which one of the following is correct in respect of the above statements?

- A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- C. Statement-I is correct but Statement-II is incorrect
- D. Statement-I is incorrect but Statement-II is correct

Q2. Consider the following statements about Ayushman Bharat?

- 1. Ayushman Bharat is a health insurance scheme launched by the Indian government to provide financial protection to vulnerable families against high medical costs.
- 2. Pradhan Mantri Jan Arogya Yojana (PM-JAY) is the flagship component of Ayushman Bharat, providing cashless and paperless access to services for the beneficiary at the point of service.
- 3. Ayushman Bharat also includes the establishment of Health and Wellness Centres (HWCs) to provide comprehensive primary healthcare services.

How many of the statements given above is/are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q3. Consider the following statement about green hydrogen

- 1. It is produced through water electrolysis using renewable energy sources like wind, solar, and hydroelectric power.
- 2. Produced through coal or lignite gasification, or by steam methane reformation of natural gas or methane.
- 3. Produced using electricity generated by burning fossil fuels, but paired with carbon capture and storage (CCS) or carbon capture use (CCU) technologies

Which of the following processes is used to produce green hydrogen is correct ?

- A. Only one
- B. Only two
- C. All three
- D. None

Q4. Consider the following statements regarding Carbon Pricing

- 1. This is an instrument that captures the external costs of greenhouse gas (GHG) emissions and ties them to their sources through a price
- 2. It is generally in the form of a price on the emitted carbon monoxide (CO)
- 3. It helps to shift the burden for the damage from GHG emissions back to those who are responsible for it

Which of the above statements is/are correct?

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

Q5. Consider the following statements regarding microplastic

- 1. Primary microplastics are tiny particles designed for commercial use and microfibers shed from clothing and textiles
- 2. Secondary microplastics are formed from the breakdown of larger plastics caused by exposure to the sun's radiation.

3. Microplastics act as carriers for various chemicals, antibiotic-resistant bacteria, and pathogens, posing risks to aquatic life and human health

How many of the above statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Q6. Which of the following countries are part of QUAD grouping?

- 1. Japan
- 2. UK
- 3. USA
- 4. France
- 5. India
- 6. Australia

Select the correct answer code:

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

Q7. Which of the following trends in the working of the Indian political system reflects its federal spirit?

- 1. Territorial disputes between states
- 2. Demand for creation of new states
- 3. Demand of the states for more financial grants from the Centre to meet their developmental needs
- 4. Emergence of Regional parties and their contribution to national politics
- 5. Opposition of the State to the Goods and Services Tax (GST)

Select the correct answer using the codes below.

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

Q8. Consider the following statements regarding Producer Price Index

- 1. It measures the average price change received by the producer excluding the indirect taxes.
- 2. It does not reflect the price changes in services

Which of the statements given above is/are correct?

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

Q9. Which of the following regional/Sub-regional groupings has India and Myanmar both as their members:

- 1. ASEAN
- 2. BIMSTEC
- 3. SAARC
- 4. Mekong Ganga Cooperation

Choose the correct answer using the codes given below:

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

Q10. Consider the following statements regarding Global Biofuels Alliance

- 1. India-led Initiative To facilitate cooperation and intensify the use of sustainable biofuels, including in the transportation sector.
- 2. India, Brazil and the US are founding Members
- 3. It will also help accelerate India's programs such as PM-JIVAN Yojna, SATAT,

How many of the above statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Prelims Track Answer

Answer 1 Option C is correct

Explanation

- The Line of Actual Control (LAC) is a demarcation line that separates the Indian-controlled territory of Ladakh and the Chinese-controlled territory of Aksai Chin in the western Himalayas. **Hence, statement 1 is correct.**
- The McMahon Line serves as the de facto boundary between China and India in the Eastern Sector. It specifically represents the boundary between Arunachal Pradesh and Tibet, from Bhutan in the west to Myanmar in the east. **Hence, statement 2 is incorrect.**

Answer 2 Option C is correct

Explanation

- Ayushman Bharat is a health insurance scheme launched by the Indian government with the aim of providing financial protection to vulnerable families against high medical costs. **Hence, statement 1 is correct**
- Pradhan Mantri Jan Arogya Yojana (PM-JAY) is indeed the flagship component of Ayushman Bharat. It provides cashless and paperless access to services for the beneficiary at the point of service, offering coverage for hospitalization expenses. **Hence, statement 2 is correct**
- Ayushman Bharat includes the establishment of Health and Wellness Centres (HWCs) as part of its comprehensive approach to primary healthcare. These centers aim to provide a range of services, including preventive, promotive, and curative care. **Hence, statement 3 is correct.**

Answer 3 Option A is correct

Explanation

- Green hydrogen is produced through water electrolysis using renewable energy sources like wind, solar, and hydroelectric power. This process splits water into hydrogen and oxygen, producing no carbon dioxide. **Hence, statement 1 is correct.**

- Grey hydrogen- Produced through coal or lignite gasification, or by steam methane reformation of natural gas or methane. These processes are usually carbon-intensive, but hydrogen gas itself doesn't emit greenhouse gases when burned. **Hence, statement 2 is incorrect.**
- Blue hydrogen- Produced using electricity generated by burning fossil fuels, but paired with carbon capture and storage (CCS) or carbon capture use (CCU) technologies to prevent greenhouse gases from entering the atmosphere. **Hence, statement 3 is incorrect.**

Answer 4 Option C is correct

Explanation

- This is an instrument that captures the external costs of greenhouse gas (GHG) emissions and ties them to their sources through a price (**Thus Statement 1 is correct**)
- It is generally in the form of a price on the emitted carbon dioxide (CO₂) (**Thus Statement 2 is incorrect**)
- It helps to shift the burden for the damage from GHG emissions back to those who are responsible for it. (**Thus Statement 3 is correct**)

Answer 5 Option C is correct

Explanation

- Primary microplastics are tiny particles designed for commercial use and microfibers shed from clothing and textiles, such as microbeads found in personal care products, plastic pellets, and plastic fibres.
- Secondary microplastics are formed from the breakdown of larger plastics, such as water bottles, caused by exposure to environmental factors like the sun's radiation and ocean waves.
- Microplastics act as carriers for various chemicals, antibiotic-resistant bacteria, and pathogens, posing risks to aquatic life and human health if they bypass the water treatment process. **Hence all statements are correct**

Answer 6 Option B is correct

Explanation

- The Quadrilateral Security Dialogue (Quad) is an informal strategic forum that brings together the US, Japan, Australia, and India for summits, intelligence exchanges, and military drills.
- In 2007, the forum began as a dialogue.
- The diplomatic and military agreement was largely interpreted as a response to China's growing economic and military might.

Answer 7 Option D is correct

Explanation

- Although the Constitution of India has created a strong central government, it has **not made the state governments weak** and has not reduced them to the level of administrative agencies for the execution of policies of the Central government.
- Indian federation has been described as 'a **new kind of federation** to meet India's peculiar needs'.
- The **state governments are autonomous units** working **under the Constitutional framework** in tandem with the Centre to **achieve common goals. Hence all statements are correct**

Answer 8 Option A is correct

Explanation

- It is the average change in the price of goods and services at the place of production before they reach the market.
- It reflects the change in average prices that a producer receives.
- PPI estimates exclude indirect taxes, transportation and distribution costs.
- Significance of PPP
- PPP is used as a measure of inflation and deflation.

- PPP is to calculate escalator clauses in private contracts based on the prices of key inputs.
- An escalator clause is a contract provision that allows for an automatic increase in the agreed-upon wages or prices if certain conditions change while the contract is in effect.
- It acts as a comparison of input and output costs. It reflect price changes in services and goods. **Hence, statement 2 is incorrect.**

Answer 9 Option C is correct.

ASEAN

- The Association of Southeast Asian Nations is a regional organization that was established to promote political and social stability amid rising tensions among the Asia-Pacific's post-colonial states.
- ASEAN Secretariat – Indonesia, Jakarta.
- Member Nations: Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, Cambodia. **Hence the point is incorrect as India is not its member.**

Answer 10 Option C is correct

Explanation

- India-led Initiative to develop an alliance of Governments, International organisations and Industry to facilitate the adoption of biofuels.
- Aim: To facilitate cooperation and intensify the use of sustainable biofuels, including in the transportation sector.
- Founding Members: India, Brazil and the US
- It will also help accelerate India's existing biofuels programs such as PM-JIVAN Yojna, SATAT **Hence all statements are correct**



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