

# 3 ALY CURRENT AFFAIRS

09 September 2024























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# **GSI**

# 1. On uncommon cyclones in the Arabian Sea

#### Source: The Hindu

**Context:** Cyclones in the Arabian Sea are unusual, with recent anomalies highlighting complex patterns.

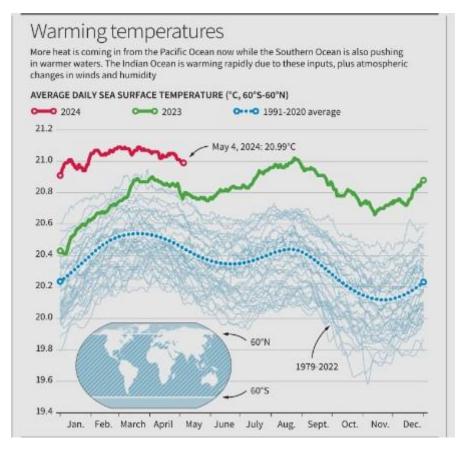
This involves studying the region's climate, oceanography, and climate change impacts.

# Cyclone Seasons in the North Indian Ocean:

- The north Indian Ocean has two cyclone seasons: pre-monsoon (April to June) and post-monsoon (October to December). This contrasts with other cyclone-prone regions, which typically experience only one season.
- The Arabian Sea and Bay of Bengal exhibit different cyclone activity levels due to variations in sea surface temperatures, atmospheric convection, and wind patterns.

# **Influence of Climate Change:**

• Climate change is amplifying the uniqueness of the Indian Ocean. The influx of warmer waters from the Pacific and Southern Oceans is accelerating ocean warming.



• The Indian Ocean's rapid warming affects global ocean currents and atmospheric patterns, contributing to unusual cyclonic activity.

# **Unusual Cyclonic Activity:**

- Cyclone Asna:
  - Asna, a rare cyclone forming in August 2023, marked the first such event in the north Indian Ocean in August since 1981.
  - It originated from a strong land-born depression transitioning to the warm Arabian Sea, demonstrating unusual cyclogenesis behavior.
  - The cyclone caused significant impacts, including nearly 50 deaths and substantial damage to crops and property, before dissipating due to dry desert air.

# **Regional Cyclone Patterns:**

• The Arabian Sea's cyclone activity is generally less intense compared to the Bay of Bengal. Factors include cooler temperatures, stronger wind shear, and lower convective activity.



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• Despite these constraints, there has been a slight upward trend in cyclone numbers in recent years, although the region has been relatively calm recently.

#### **Global Context:**

- The warm 2023-2024 period, influenced by global warming and El Niño, has led to a series of extreme weather events globally.
- The unpredictability of the monsoon and the rare occurrence of cyclones like Asna underscore the increasing variability and unexpected nature of climate-driven phenomena.

# 2.How Changes in Arctic Sea Ice Affect Monsoon Patterns in India

Source: The Hindu

**Context:** Reduced Arctic sea ice is linked to erratic rainfall in India, affecting monsoon patterns and altering regional rainfall, underscoring the Arctic's influence on South Asian weather.

#### Monsoon Patterns and Arctic Sea Ice:

- The Indian summer monsoon (ISMR) is a significant weather phenomenon, with most rainfall occurring from July to September.
- Traditionally, the Indian monsoon involves a low-pressure system over the Indian landmass that draws moisture-laden winds from the Arabian Sea and Bay of Bengal.
- The monsoon splits into two branches: one affecting the west coast and the other reaching the eastern and northeastern regions of India.

#### **Influence of Arctic Sea Ice:**

- Research by NCPOR and Korea Polar Research Institute reveals reduced Arctic sea ice impacts Indian monsoons.
- Less ice in the Central Arctic leads to reduced rainfall in western and peninsular India but increased rainfall in central and northern regions.
- Lower sea ice in the Barents-Kara Sea causes erratic monsoon patterns and rainfall variability across India.

#### **Mechanisms of Influence:**

Rossby Waves: Reduced Arctic sea ice enhances Rossby waves, shifting the Asian and subtropical jets, disrupting rainfall patterns in India.

Anticyclonic Circulation:Low sea ice in the Barents-Kara Sea creates high pressure over Europe, disrupting Asia's atmosphere, leading to more rainfall in northeast India and less in central and northwest regions.

#### **Climate Change Impact:**

Climate change accelerates Arctic sea ice reduction, exacerbating the variability and unpredictability of the Indian monsoon.

The study underscores the role of climate change in increasing the frequency of droughts and excessive rainfall, contributing to severe weather events and altering monsoon patterns.

### **Immediate Need for Research:**

- Understanding the links between Arctic sea ice and Indian monsoon patterns is crucial for improving weather forecasts and preparing for climate-induced changes.
- The study highlights the need for ongoing research into climate dynamics to better predict and manage the impacts of a changing climate on monsoon patterns.



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# **GS II**

# 3.Ukraine Keen on India Joining the Swiss Peace Process

Source: The Hindu

**Context:** Ukraine is pushing for India's involvement in the Russia-Ukraine peace process and the Swiss summit. Despite India's initial disassociation, Ukraine's Ambassador Oleksandr Polishchuk hopes for a more active role from New Delhi.

#### **Indian Disassociation from Swiss Peace Summit:**

 After the Swiss peace summit in June, India issued a statement distancing itself from the summit's outcome due to the absence of Russia and Ukraine in the discussions.

### Ukrainian Ambassador's Proposal:

- Retrospective Participation: Ukraine's Ambassador to India, Oleksandr Polishchuk, revealed that
  Ukrainian President Volodymyr Zelenskyy has proposed that India reconsider its stance on the
  Swiss peace summit. Ukraine hopes India might join the peace process retrospectively or formulate
  its own proposals.
- Enhanced Role for India: Polishchuk emphasises that India should not merely act as a mediator but could play a more substantial role in guiding the peace process or even hosting a future peace summit.

#### **Indian Prime Minister Role:**

- **Visit and Conversations:** The Ukrainian envoy expressed optimism that the Indian Prime Minister would visit Ukraine and could signify India's support for the peace-building effort.
- India's Potential Contribution: Given India's diplomatic capabilities and Modi's ability to communicate with all sides, Ukraine believes India can offer more than just message delivery.

# **Government Outreach:**

• **Increased Diplomatic Efforts:** The Indian government is intensifying its diplomatic outreach to countries involved in efforts to resolve the conflict, aligning with Ukraine's interest in a more active Indian role.

#### **Conclusion:**

- Ukraine urges India to reconsider its initial disassociation from the Swiss peace summit, suggesting it play a key role in the Russia-Ukraine conflict resolution.
- The Ukrainian Ambassador emphasises India's potential influence in guiding or hosting future peace initiatives. India's growing diplomatic engagement supports these efforts.









# **GS III**

# 4. After Punjab, Delhi relents under school fund freeze, agrees to implement PM-SHRI

**Source: The Indian Express** 

Context: Under pressure from the Centre's freeze on Samagra Shiksha Abhiyan (SSA) funds, Delhi has agreed to implement the Pradhan Mantri Schools for Rising India (PM-SHRI) scheme, following Punjab's decision.

#### PM-SHRI Scheme:

- With a ₹27,000 crore budget over five years, PM-SHRI aims to transform 14,500 government schools into model institutions as per NEP 2020.
- The Centre funds 60%, and states cover 40%. States must sign an MoU with the Education Ministry to participate.

# **Key Developments:**

- Opposition States' Resistance: Delhi, Punjab, and West Bengal had refused to sign the MoU, citing their own education programs. This led to a freeze in SSA funds, impacting key education services like teacher salaries and student uniforms.
- Punjab's Decision: Punjab was the first to agree on securing the release of ₹500 crore in withheld SSA funds.
- Delhi's Shift: Delhi agreed to implement PM-SHRI and requested the release of ₹330 crore in frozen SSA funds.
- West Bengal's Stand: West Bengal remains



- Total project cost Rs. 27360 crore
- over a period of 5 years
- Total Central share will be Rs. 18128



the only holdout, citing concerns over the "PM-SHRI" prefix and awaiting ₹1,000 crore in SSA

#### **Conclusion:**

- The freeze on SSA funds has pushed opposition-ruled states like Delhi and Punjab to align with
- West Bengal's continued resistance reflects ongoing state-Centre tensions in education policies.

# 5. Why banks are witnessing a slowdown in bank deposit growth

**Source: The Indian Express** 

Context: In June 2024, credit grew by 15%, while deposits increased by only 11.7%, raising concerns for the government and RBI. Banks are now encouraged to boost deposit mobilisation through innovative products.



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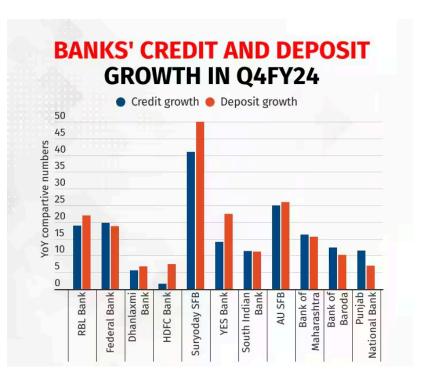


# Reasons for Slowdown in Deposit Growth:

- Shift to Capital Markets:
  - After the pandemic, more households shifted savings to capital markets, drawn by higher returns.
  - This trend has been facilitated by better digital infrastructure and rising smartphone penetration.
- Rise in Mutual Fund Investments: The mutual fund industry's assets under management hit a record ₹64.97 lakh crore.

# **Concerns and Warnings:**

- RBI warned that the slower deposit growth compared to credit could lead to liquidity issues.
- Rbi encouraged banks to leverage their branch network and offer innovative products to attract deposits.
- The Finance Minister emphasised the need to refocus on mobilizing small deposits, not just large ones, to reverse the declining growth.



#### Banks' Response:

- Banks have introduced special retail deposit schemes to boost deposits.
- For example, SBI launched the 'Amrit Vrishti' scheme with a 7.25% interest rate.
- Bank of Baroda introduced 'Monsoon Dhamaka' offering similar rates.

# **Conclusion:**

Despite efforts, banks may continue to face "deposit tightness," as maintaining credit growth and higher deposit costs keeps the pressure on India's banking sector.

# 6. India's military diplomacy in top gear with back-to-back exercises

Source: The Hindu

**Context:** India's military diplomacy is at a high, with a series of global exercises involving all three branches of its armed forces, showcasing increased international military cooperation.

#### India-U.S. Bilateral Army Exercise Yudh Abhyas:

• Set to begin at Mahajan field firing ranges in Rajasthan, Yudh Abhyas is one of the cornerstones of India-U.S. military cooperation.











- This year features one of the largest U.S. contingents with around 600 personnel and key equipment, including Stryker infantry vehicles and the M142 HIMARS (High Mobility Artillery Rocket System).
- Talks on India procuring and licence-manufacturing these vehicles are ongoing.

# IAF's Multilateral Exercise Tarang Shakti:

- Taking place in Jodhpur, this is the Indian Air Force's largest multilateral exercise with eight nations (Australia, Greece, Japan, Singapore, Sri Lanka, UAE, U.S., and India) participating.
- U.S. deployed A-10 Thunderbolt II and F-16 jets, marking the first time the iconic A-10s flew in Indian airspace.
- Bangladesh was originally scheduled to participate but withdrew due to domestic issues.

# **Malabar Naval Exercise:**

 Scheduled on Visakhapatnam's coast, this exercise will feature India, Australia, Japan, and the U.S., reflecting deep naval cooperation between the Quad members.

#### Bilateral Exercise Indra with Russia:

 Following Malabar, an Indian Army mechanised infantry contingent will participate in this bilateral exercise with

Russia, further strengthening India's military engagements globally.

# **Other Significant Engagements:**

• The Indian Army recently concluded the 10th edition of Mitra Shakti with Sri Lanka, further enhancing military ties with its southern neighbour.

#### Conclusion:

- India's military diplomacy, underscored by these exercises, emphasises the nation's increasing strategic partnerships, especially with the U.S., while maintaining a broad base of military collaborations with countries in various regions, including Russia and Sri Lanka.
- This approach showcases India's commitment to fostering unity and enhancing military readiness through global cooperation.

# 7.Planetary Protection: Safeguarding Earth and Space from Contamination

# Source: The Hindu

**Context:** Planetary protection prevents microbial contamination of Earth and space bodies, ensuring clean scientific research and intact planetary biospheres.

#### **Definition and Importance:**

• Planetary protection involves measures to prevent the introduction of Earth-originating microorganisms to other planets and vice versa.









• It ensures that extraterrestrial environments remain uncontaminated and helps avoid any potential cross-contamination that could affect scientific findings or alien ecosystems.

# Legal Framework:

• The principle is enshrined in Article IX of the Outer Space Treaty (1967), which mandates that space exploration must avoid "harmful contamination" and prevent "adverse changes" to both the Earth's and extraterrestrial environments.

#### **Recent Developments:**

• China announced it would advance its Tianwen-3 mission, a Mars sample-return mission, to 2028. The mission's designer confirmed adherence to planetary protection protocols.

#### **Technical Measures:**

- To adhere to planetary protection standards, spacecraft are assembled and then subjected to rigorous sterilisation processes.
- This includes baking the spacecraft in a dry room at 120°C for three days. While this process is costly and technically demanding, it is essential for maintaining the cleanliness of both Earth and extraterrestrial environments.

#### **Conclusion:**

- Planetary protection is a fundamental principle in space exploration, ensuring that interplanetary missions do not jeopardise the integrity of planetary biospheres.
- This principle not only upholds scientific integrity but also aligns with international treaties governing space exploration.

# 8. Brazil's LIDE eyes boosting trade with India

Source: The Hindu

Context: LIDE, a major Latin American business organization, has opened an office in Mumbai to enhance trade between India and Brazil, especially as Brazil

prepares to host the G-20 summit.

# LIDE's Global Reach and India Expansion:

- LIDE (Leaders of International Development and Enterprise) is Latin America's largest business leaders' organization, with international offices in over 20 countries.
- It focuses on promoting free enterprise, innovation, and economic growth across 34 sectors, including agriculture, aerospace, defence, technology, and tourism.
- LIDE has opened an office in Mumbai to strengthen trade ties between India and Brazil, with plans to organise a four-day conference in India in August 2025. This event will see



participation from 150 business enterprises from Brazil, Latin America, and other countries.

# **Bilateral Economic Relations:**

- The goal is to enhance the bilateral economic relationship between Brazil and India by facilitating business interactions between the private sectors of both countries.
- Their is a potential growth in key areas such as agriculture, aerospace, defence, mineral sectors, oil & gas, pharmaceuticals, sustainability, and tourism.

**Tourism Sector Potential:** 









- There is a vast potential in the tourism sector, noting that Brazil has strong outbound tourism to the U.S. and Europe, but not yet to India.
- An increase in tourism between Brazil and India could strengthen bilateral ties and business opportunities.

# **Current Bilateral Trade:**

- Trade between Brazil and India stands at around \$20 billion but has the potential to grow significantly.
- Brazil's exports to India, valued at \$11 billion, mainly include crude oil, sugar, soy, and soybean oil, while India's exports to Brazil, worth \$9 billion, primarily consist of pharmaceuticals, refined petroleum, and technology products.

# **Diversifying Trade Relationships:**

- Brazilian companies are currently heavily dependent on China for imports and Russia for fertilisers.
- LIDE suggested that Indian products and services could provide Brazilian companies with more competitive alternatives, encouraging greater trade between the two nations.

# 9. What is the responsible use of Artificial Intelligence in war; where India, US and China stand

# **Source: The Indian Express**

**Context:** The second summit on Responsible Use of AI in the Military starts in **Seoul** aiming to set global ethical norms for AI in warfare. While global AI arms control frameworks emerge, India remains cautious, whereas the US and China take more proactive roles.

# **REAIM Summit and Global Diplomacy:**

- The REAIM summit, co-hosted by Kenya, the Netherlands, Singapore, and the UK, represents a global diplomatic effort to shape norms for military AI applications.
- The first summit was held in The Hague in February 2023 make outcomes in expand the debate on military AI.
- The REAIM process aims to address the implications of AI on global peace and security, implement new norms for military AI, and develop long-term governance strategies.

#### **Shift in Focus:**

- Previously, discussions on military AI centered on autonomous weapons or "killer robots."
- The REAIM process now encompasses a broader range of issues, including AI's role in intelligence, surveillance reconnaissance, and decision-making support systems (AI-DSS).
- The aim is to establish norms for the "responsible use" of AI rather than reversing its integration into military affairs.

# AI in wars, from detection to strikes

GAZA



A damaged building after an Israeli airstrike on Khan Younis in Gaza on Dec. 1, 2023. The New York Times

The Israel Defense Forces (IDF) allegedly used AI-based programmes "Lavender" and "The Gospel" to detect and strike suspected operatives of the militant group Hamas. A report from Israel-based +972 Magazine and news website Local Call said that IDF officers often acted as "rubber stamps" in greenlighting strikes. The IDF denied such capabilities, saying the system was "simply a database... to cross-reference intelligence sources".

UKRAINE



Members of Ukraine's Army test a Vampire drone in Donetsk on May 5, 2024. The New York Times

A Reuters report said Ukraine was developing AI drones, including visual systems that can help identify targets and fly drones into them. More complex programmes enabling aerial vehicles to operate in interconnected "swarms" are also under development. Decisions would then be instantly relayed to all drones in a swarm, with minimal human role. AI-enabled drones are already being used to target military facilities and oil refineries inside Russia.







#### **International Efforts:**

- The US has taken a leading role, issuing a draft political declaration on responsible AI use and encouraging NATO allies to adopt similar principles.
- The US is also engaging in bilateral discussions with China to address AI's implications for nuclear deterrence.

#### Global Positions on Military AI:

- United States: The US has been proactive in promoting responsible AI use through national guidelines, NATO principles, and a UNGA resolution co-sponsored by 123 countries.
- China: China has been actively involved in strategic and regulatory discussions on military AI. In 2021, it issued a White Paper on military AI regulation and supported The Hague summit's "call to action."
- India: India has remained in a 'watch-and-wait' mode, observing the global debate without fully engaging. It did not endorse the "call to action" from The Hague summit and its position on the new AI norms to be discussed in Seoul is yet to be seen.

# **Implications for India:**

- India's cautious approach contrasts with the proactive stances of the US and China. Given India's past experiences with nuclear arms control, there's a need for active participation in shaping global norms for military AI.
- India's involvement is crucial in influencing the evolving framework of international AI regulations and ensuring that its strategic and security interests are well-represented.







# Editorial, Ideas and Opinions 10. Policy Paralysis and Weakened Public Health Sector

Source: The Hindu

**Context:** The Indian public health sector for policy paralysis and inadequate focus on critical health needs. There is a need for effective public health policies to address diverse health needs across social strata and critiques recent policy shifts.

#### **Diverse Public Health Needs:**

- **Felt Needs**: Diseases of poverty (e.g., tuberculosis, malaria, undernutrition) predominantly affect the poor. These issues require urgent attention due to their impact on livelihood and basic rights.
- Middle-Class Issues: Environmental pollution (air, water, waste management) and lifestyle-related diseases (e.g., chronic illnesses) are significant for the middle class. These problems are linked to infrastructure deficits and poor regulations.
- **Curative Care Needs:** Critical for all social groups, including primary (basic health care), secondary (specialized care), and tertiary (advanced care). The poor rely on public sector primary health care, while secondary and tertiary care remain inadequately addressed.

# **Historical Policy Developments:**

- National Rural Health Mission (2005) and National Health Mission (2013): These initiatives aimed to strengthen public sector health care and were a departure from the commercialised health care approach of the 2002 National Health Policy.
- **Public Health Infrastructure:** The NHM led to increased trust in public health care with a network of 153,655 sub-centres, 25,308 primary health centres (PHCs), and 5,396 community health centres (CHCs). However, subsequent policies shifted focus to health insurance schemes.

# Shift to Health Insurance Schemes:

- **Pradhan Mantri Jan Arogya Yojana (PMJAY):** Introduced as part of Ayushman Bharat, it emphasises publicly funded health insurance but predominantly benefits private sector health care.
- **Criticism:** PMJAY's focus on hospitalisation rather than comprehensive health care supports private sector dominance. The scheme's reliance on private hospitals for secondary and tertiary care underscores the failure to strengthen public sector facilities.

# Weakening of Public Health Institutions:

- Health and Wellness Centres (HWCs): Transformed from sub-centres, PHCs, and CHCs, HWCs are intended to provide curative care, diluting their original preventive and promotional roles.
- Renaming Controversy: Recent renaming of HWCs to 'Ayushman Arogya Mandir' raises concerns about cultural and practical relevance.

# **Impact on Trust and Effectiveness:**

- **Public Trust**: The shift towards private sector care and the weakening of primary health care institutions have eroded public trust in both sectors.
- **Policy Critique:** The focus on private sector growth and health insurance schemes has not addressed the core issues in public health care, including inadequate infrastructure and poor service delivery.







# **In Brief**

# 11. India Generates Highest Plastic Pollution in the World: Insights from a New Study

# Source: The Indian Express

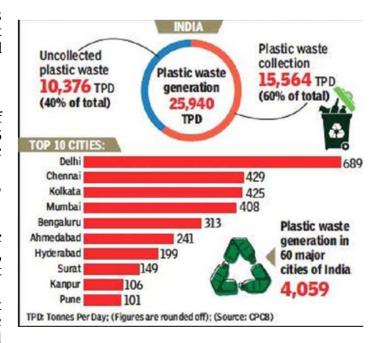
**Context:**A Nature study reveals India produces 9.3 million tonnes of plastic waste annually, the highest globally, highlighting unmanaged waste issues and the Global North-South divide.

#### India's Plastic Pollution Statistics:

- India generates approximately 5.8 mt of plastic waste through burning and another 3.5 mt as debris, totaling 9.3 mt of plastic pollution each year.
- This is far higher than Nigeria (3.5 mt), Indonesia (3.4 mt), and China (2.8 mt).

# **Unmanaged Waste:**

- The study estimates that 251 mt of plastic waste is produced globally each year. Of this, about 52.1 mt is "unmanaged," meaning it ends up in the environment.
- Unmanaged waste includes debris that pollutes natural environments and plastic burned in open fires, which releases harmful particulates and toxic gases.



# **Global Distribution of Plastic Pollution:**

- The study identifies a notable divide between the Global North and South. Countries in Southern Asia, Sub-Saharan Africa, and Southeast Asia contribute significantly to global plastic pollution.
- Approximately 69% of global plastic pollution (35.7 mt per year) comes from 20 countries, none of which are High Income Countries (HICs). HICs typically have better waste management systems and do not rank among the top polluters.

# **Waste Management Practices:**

• In the Global South, open burning is a common method of plastic disposal, whereas in the Global North, uncontrolled debris is more prevalent due to better waste management infrastructure.

## **Ongoing Treaty Negotiations:**

- The study's release coincides with negotiations for a legally binding international treaty on plastic pollution, expected to be finalised by the end of 2024. This treaty could be as significant as the Paris Agreement on climate change.
- The debate contrasts waste management with reducing plastic production. Fossil-fuel countries and industry groups view it as a waste issue, while the EU and African nations push for cutting single-use plastics and production controls.

#### **Criticism and Industry Response:**

• Critics argue that focusing solely on waste management may divert attention from the need to reduce plastic production.











- The recent study has been praised by plastics industry groups for highlighting unmanaged waste as a major pollution contributor.
- Environmental advocates stress the need for comprehensive strategies that address both waste management and production reduction.







# **Daily Quiz**

### Q1. Consider the following statement :

**Statement 1:** Cyclones in the Arabian Sea are rare; recent anomalies reveal complex interactions between the region's climate, oceanography, and climate change.

Statement 2: The north Indian Ocean experiences two cyclone seasons—pre-monsoon and post-monsoon—due to its unique climate and ocean conditions, which are influenced by climate change and have led to unusual cyclonic activity.

# Which one of the following is correct in respect of the above statement?

- A. Both statements are correct, and Statement 2 is the correct explanation of Statement 1.
- **B.** Both statements are correct, but Statement 2 is not the correct explanation of Statement 1.
- **C.** Statement 1 is correct, and Statement 2 is incorrect.
- **D.** Statement 2 is correct, and Statement 1 is incorrect.

# Q2. What is the impact of low sea ice in the Barents-Kara Sea on monsoon patterns in India?

- **A.** Creates high pressure over Europe, leading to more rainfall in central India
- **B.** Causes erratic monsoon patterns and variability in rainfall across India
- **C.** Decreases rainfall in northeast India and increases in central India
- **D.** Reduces the frequency of droughts in India

# Q3. Consider the following statement:

**Statement 1:** India initially disassociated itself from the Swiss peace summit due to the absence of key conflict parties.

**Statement 2:** Ukraine's Ambassador has proposed that India take a more active role, including hosting future peace summits.

# Which one of the following is correct in respect of the above statement?

- **A.** Both statements are true.
- **B.** Both statements are false.
- **C.** Statement 1 is true, and Statement 2 is false.
- **D.** Statement 1 is false, and Statement 2 is true.

# Q4. Consider the following statements regarding the implementation of the Pradhan Mantri Schools for Rising India (PM-SHRI) scheme:

- 1. The PM-SHRI scheme aims to transform 14,500 government schools into model institutions with a total budget of ₹27,000 crore over five years, where the Centre funds 60% and states cover 40%.
- 2. Punjab was the first state to agree to implement PM-SHRI and secure the release of ₹500 crore in withheld Samagra Shiksha Abhiyan (SSA) funds.
- 3. West Bengal has agreed to implement the PM-SHRI scheme and is now seeking the release of ₹1,000 crore in SSA funds.
- **4.** Delhi initially resisted the PM-SHRI scheme but later agreed to implement it under pressure, requesting the release of ₹330 crore in frozen SSA funds.

# Which of the above statements is/are correct?

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

# Q5. Consider the following statement:

**Statement 1:** Banks face a deposit growth slowdown, rising by only 11.7%, while credit has increased by 15%, causing concern for the government and RBI.

**Statement 2:** Banks face a deposit growth slowdown, rising by only 11.7%, while credit has increased by 15%, causing concern for the government and RBI.

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











- A. Both statements are correct, and Statement 2 is the correct explanation of Statement 1.
- **B.** Both statements are correct, but Statement 2 is not the correct explanation of Statement 1.
- **C.** Statement 1 is correct, and Statement 2 is incorrect.
- **D.** Statement 2 is correct, and Statement 1 is incorrect.

# Q6. Consider the following pairs related to India's military exercises:

Military Exercises	Description
1. Yudh Abhyas	Involves a large U.S. contingent and advanced equipment
<b>2</b> . Tarang Shakti	Includes nine nations with A-10 Thunderbolt II jets
3. Malabar Exercise	Takes place on Visakhapatnam's coast with Quad members
4. Indra Exercise	Conducted after Malabar to strengthen ties with Russia

# How many of the above pairs are correctly matched?

- **A.** Only one
- B. Only two
- **C**. Only three
- **D**. All four

# Q7. Which statements about planetary protection in space exploration are correct?

1. It involves preventing the introduction of Earth-originating microorganisms to other planets and vice versa to maintain clean scientific research and intact planetary biospheres.

- 2. It is enshrined in Article IX of the Outer Space Treaty (1967), mandating avoidance of "harmful contamination" and "adverse changes" to both Earth's and extraterrestrial environments.
- **3.** China's Mars sample-return mission, Tianwen-3, scheduled for 2028, adheres to planetary protection protocols.
- **4.** Spacecraft undergo rigorous sterilisation, including baking at 120°C for three days, despite the cost and technical demands.

# Which of the above statements is/are correct?

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

# **Q8.** Consider the following statements:

**Statement 1:** LIDE, a major Latin American business organization, has opened an office in Mumbai to enhance trade between India and Brazil and plans to organise a four-day conference in India in August 2025.

**Statement 2:** LIDE's goal is to diversify Brazil's trade relationships by reducing dependency on China and Russia, and to leverage Indian products and services as competitive alternatives.

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

- A. Both statements are correct, and Statement 2 is the correct explanation of Statement 1.
- **B.** Both statements are correct, but Statement 2 is not the correct explanation of Statement 1.
- **C.** Statement 1 is correct, and Statement 2 is incorrect.
- **D.** Statement 2 is correct, and Statement 1 is incorrect.

# Q9. How has India approached the global debate on the responsible use of AI in warfare?

- **A.** India has been highly proactive, endorsing all global norms and participating in international discussions
- **B.** India has led international efforts to develop new AI regulations and guidelines











- **C.** India has opposed international discussions and focused on unilateral AI policies
- D. India has remained in a 'watch-and-wait' mode, observing the global debate without fully engaging

Q10. Consider the following statements regarding India's plastic pollution and global plastic waste management:

- 1. India produces 9.3 million tonnes of plastic waste annually, the highest in the world, with 5.8 million tonnes coming from burning and 3.5 million tonnes as debris.
- **2**. The study estimates that globally 251 million tonnes of plastic waste is

- produced each year, with approximately 52.1 million tonnes being "unmanaged" and ending up in the environment.
- 3. The study identifies that 69% of global plastic pollution comes from High Income Countries (HICs) due to better waste management systems.
- **4.** The ongoing negotiations for a legally binding international treaty on plastic pollution are expected to be finalised by the end of 2024, potentially as significant as the Paris Agreement.

Which of the above statements is/are correct?

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







# **Solutions**

# 1. Correct Answer is A Explanation:

- Statement 1 is accurate, noting the rarity of Arabian Sea cyclones and the significance of regional climate, ocean conditions, and climate change impacts.
- Statement 2 correctly outlines the north Indian Ocean's two cyclone seasons—pre-monsoon and post-monsoon—and explains how sea surface temperatures, atmospheric convection, and wind patterns, influenced by climate change, affect cyclone activity in the Arabian Sea and Bay of Bengal, validating the unusual cyclones mentioned in Statement 1.

# 2. Correct Answer is B Explanation:

- Low sea ice in the Barents-Kara Sea creates high pressure over Europe, disrupting the atmospheric circulation over Asia.
- This disruption results in erratic monsoon patterns and variability in rainfall across different regions of India.

# 3. Correct Answer is A Explanation:

- Statement 1: This statement is accurate. India did indeed disassociate itself from the Swiss peace summit primarily because the key conflict parties, Russia and Ukraine, were not present at the summit. India felt that the absence of these key parties undermined the legitimacy of the summit.
- Statement 2: This statement is also correct. Ukraine's Ambassador has indeed suggested that India reconsider its disassociation and take a more

active role in the peace process, including potentially hosting or guiding future peace initiatives.

# 4. Correct Answer is D Explanation:

- Statement 1 is correct: The PM-SHRI scheme has a budget of ₹27,000 crore over five years to transform 14,500 government schools, with the Centre funding 60% and states covering 40%.
- Statement 2 is correct: Punjab was the first state to agree to the PM-SHRI scheme and consequently secured the release of ₹500 crore in withheld SSA funds.
- Statement 3 is incorrect: West Bengal remains the only state that has not agreed to implement the PM-SHRI scheme and is still holding out, citing concerns and awaiting ₹1,000 crore in SSA funds.
- Statement 4 is correct: Delhi initially resisted but later agreed to implement the PM-SHRI scheme and requested the release of ₹330 crore in frozen SSA funds.

# 5. Correct Answer is C Explanation:

- **Statement 1 is accurate** in noting the disparity between the growth rates of credit and deposits, highlighting the concern for the RBI and government.
- Statement 2, however, is not entirely correct in explaining the slowdown in deposit growth. The explanation for the deposit growth slowdown is more complex than just a shift to capital markets and mutual funds. Key factors include changing consumer behavior,











economic uncertainties, and high interest rates on capital market products. While the RBI's call for innovation and attractive deposit products is part of the response, it does not fully address the underlying.

# 6. Correct Answer is B Explanation:

- Yudh Abhyas: Correct: This exercise features a large U.S. contingent with advanced equipment like Stryker vehicles and M142 HIMARS.
- Tarang Shakti: Incorrect: It involves eight nations, not nine, and Bangladesh did not participate. The U.S. A-10 Thunderbolt II jets did fly in Indian airspace for the first time.
- Malabar Exercise: Correct: This exercise is indeed scheduled to take place on Visakhapatnam's coast and involves India, Australia, Japan, and the U.S.
- Indra Exercise: Correct: The Indra exercise is conducted after Malabar and aims to enhance military ties with Russia.

# 7. Correct Answer is C Explanation:

- Statement 1 is correct: Planetary protection aims to prevent the introduction of Earth-originating microorganisms to other planets and vice versa, ensuring the cleanliness of scientific research and planetary biospheres.
- Statement 2 is correct: Article IX of the Outer Space Treaty (1967) mandates avoiding "harmful contamination" and preventing "adverse changes" to both Earth and extraterrestrial environments.
- Statement 3 is incorrect: While China has announced an advanced Mars sample-return mission, Tianwen-3, it is scheduled for 2030, not 2028.

• Statement 4 is correct: Spacecraft undergo rigorous sterilisation processes, including baking at 120°C for three days, to meet planetary protection standards, despite the high cost and technical challenges.

# 8. Correct Answer is B Explanation:

- Statement 1: LIDE has opened an office in Mumbai and will host a four-day conference in August 2025 to enhance trade between India and Brazil.
- Statement 2: LIDE seeks to reduce Brazil's reliance on China and Russia by promoting Indian products and services, but this goal does not directly explain the specific actions mentioned in Statement 1.

# 9. Correct Answer is D Explanation:

- India has adopted a cautious approach, observing the global debate on military AI without fully participating.
- It did not endorse the "call to action" from The Hague summit, and its stance on the new AI norms to be discussed in Seoul remains to be clarified.

# **10.** Correct Answer is A Explanation:

- Statement 1 is correct: India generates approximately 9.3 million tonnes of plastic waste annually, with 5.8 million tonnes from burning and 3.5 million tonnes as debris.
- Statement 2 is correct: The study estimates global plastic waste production at 251 million tonnes annually, with about 52.1 million tonnes being "unmanaged" and ending up in the environment.
- **Statement 3 is incorrect:** The study highlights that 69% of











- global plastic pollution comes from countries in the Global South, not High Income Countries (HICs). HICs typically have better waste management systems and are not among the top polluters.
- Statement 4 is correct: Negotiations for a legally binding international treaty on plastic pollution are expected to be finalised by the end of 2024, with potential significance similar to the Paris Agreement on climate change.















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