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WEEKLY CURRENT AFFAIRS DECEMBER 2022 THIRD WEEK



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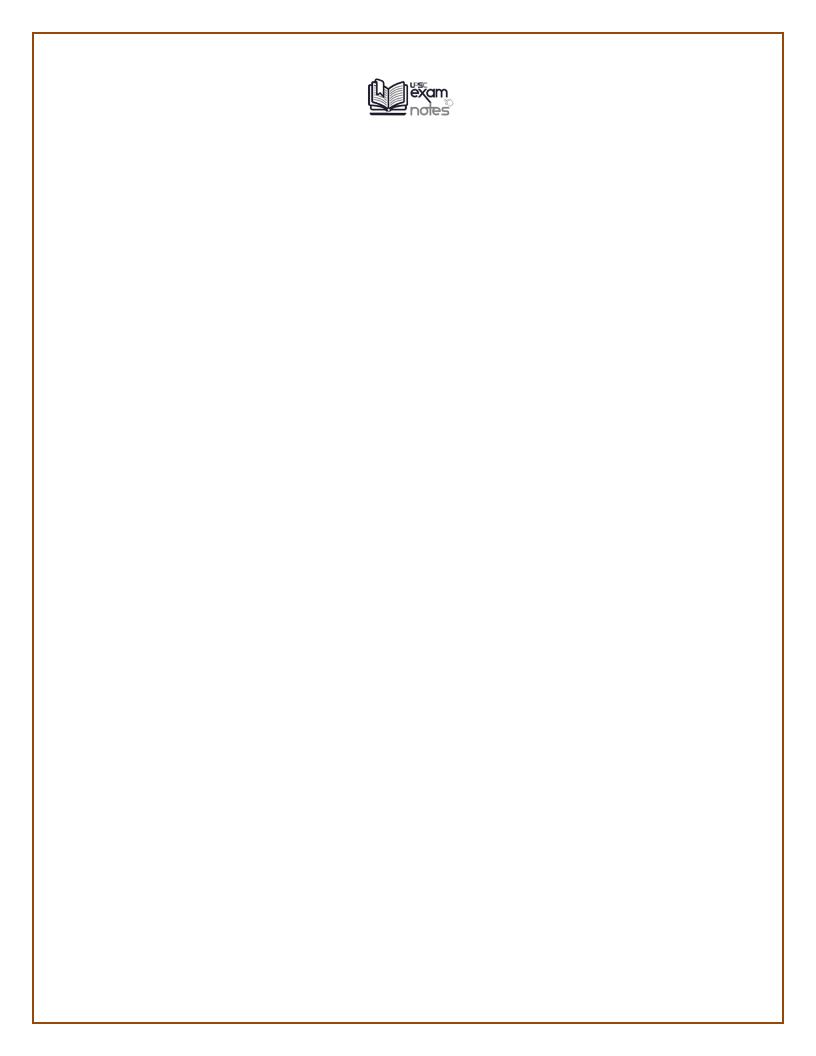
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GS III: Science & Technology

END-TO-END ENCRYPTION

1. Context

Apple announced it will be increasing the number of data points protected by end-to-end encryption on iCloud from 14 to 23 categories. The company claimed that with end-to-end encryption, user data will be protected even in case data is breached in the cloud.

2. End to End Encryption

- End to End encryption is a system of communication where only the communicating users can read the messages.
- In principle, it prevents potential eavesdroppers- including telecom providers, Internet providers, and even the provider of the communication service-from being able to access the cryptographic keys needed to decrypt the conversation. End to End encryption is intended to prevent data from being read or secretly modified, other than by the true sender and recipients.
- The messages are encrypted by the sender but the third party does not have the means to decrypt them and stores them encrypted. The recipient retrieves the encrypted data and decrypts it themselves.
- End to End has long been used when transferring business documents, financial details, legal proceedings, and personal conversations. It can also be used to control users' authorization when accessing stored data, which seems to be what Apple intends to do.
- End to End encryption is used to secure communications. Some of the popular instant messaging apps that use it are Signal, Whats apps, iMessage, and Google messages.

3. Attempts by the Government Agencies



- Attempts by government agencies across the globe, in the past, to access encrypted data hosted and stored by tech companies have met with strong resistance.
- o In 2019, the U.S., the U.K., and Australia planned to pressure Facebook to create a backdoor into its encrypted messaging apps. The aim was to allow governments to access the contents of private communications according to a report by the Guardian.
- Australia, in 2018, passed laws that would force tech companies and service providers to build capabilities allowing law enforcement secret access to messages on platforms like Whatsapp and Facebook.
- While cryptographers and cybersecurity experts argue that attempts by law enforcement to weaken encryption with backdoors are ill-advised and could compromise the reliability of the internet, the move by tech companies to use end-to-end encryptions to secure more user data seems to be getting stronger.

4. Pros of end-to-end encryption

- Security privacy
- It keeps your data safe from hacks. end-to-end encryption fewer parties have access to your unencrypted data. Even if hackers compromise the servers where data is stored (e.g. Yahoo mail hack), they cannot decrypt data because they do not possess the decryption keys.
- No government spies: There have been many cases when suspects were dragged into controversies that did not have anything to do with the original case.
- Connecting people better: People talk more freely with others when they are sure that their conversation will remain to themselves while if you are aware that some random person could be eavesdropping on your conservation, it will most likely be e little fabricated, making it less real.
- Shared Network: With more and more people restoring to save money by sharing data over a single hotspot, end-end-end encryption prevents shared content from falling into wrong hands.

5. Cons of end-to-end encryption



- Misuse of technology: Freedom beyond the limits of laws is going to be a problem if no one is on the other end to keep track of illegal activities that could be advertised or propagated through the internet.
- Law and order overlooked: When the government would not able to access information that is suspected or needs to be dug out there will be questions of law and order being overlooked at the face of the confidentiality of users.
- Terrorists, people with sick mind games, etc will take advantage of the technology without fearing the law.

GS I: Indian Heritage & Culture

BIENNALE

1. Context

The fifth edition of the Kochi Muziris Biennale opens, displaying works of artists from across the globe in varied media.

Curated by Singapore-based Indian-origin artist Shubigi Rao, the central exhibition of the showcase will be around the theme "In Our Views Flow Ink and Fire."

2. About Biennales

A biennale is an international large-scale showcase of art that takes place every two years at a particular site, centred around a curatorial theme. Unlike art fairs, a biennale is usually a non –commercial enterprise.

3. History of Biennales

- One of the most prestigious and oldest biennales in the world is the Venice Biennale, which was established through a resolution by the city council in 1893 to celebrate national artistic talent.
- 1900 saw the emergence of Biennales across the world, with Bienal de Sao Paulo being instituted as the first non –European biennial in 1951.

In 2009 a global Biennale Foundation was established with the "aim to create a



platform for dialogue, networking, and knowledge sharing among contemporary art biennials around the world. It lists a directory of over 200 biennales that are held at present.

4. Significance of Art Biennales

- Though most biennales do not allow for direct purchase of art, invitation, and participation in the showcase is often viewed as recognition of an artist's work.
- Biennale participation opens opportunities for future museum exhibitions, gallery representation, and acquisitions
- Additionally, biennales, often named after the host city, become a reason for local pride, promoting cultural tourism and generating revenue through visitors.

5. Kochi – Muziris Biennale

Kochi Muziris Biennale was founded in 2011 by Kerala born; Mumbai-based artists Bose Krishnamachari and Riyas Komu, to "create a platform that will introduce contemporary global visual art theory and practice to India".

6. Purpose of Kochi - Muziris Biennale

It sought to create a new language of cosmopolitanism and modernity that is rooted in the lived and living experience of this old trading port, which for more than six centuries, has been a crucible of numerous communal identities.

GS III: Environment& ecology

HORNBILLS

1. Introduction

• The logo for India's G20 presidency was unveiled recently at the Hornbill festival in Nagaland.



- This festival showcases the art, culture & cuisine of Nagaland, including the most magnificent birds in India.
- The Great Hornbill is found in the Himalayan foothills, the Northeast & the Western ghats.
- With a wingspan of 5 feet, it presents an awesome spectacle while landing on a perch.
- The wreathed hornbill, the brown hornbill, and the rufous-necked hornbill are slightly smaller & only found in Northeast India.
- A great place to spot the oriental pied hornbill is the Rajaji National Park, Uttarakhand.
- The Malabar grey hornbill's loud laugh echoes in the western ghats.
- The smallest of the group, the Indian grey hornbill is found all over & is often spotted in urban settings like Theosophical Society gardens, Chennai.
- Their large, heavy beaks pose some limitations for balance, the first two vertebrae are fused.
- Hornbill is the state bird of Arunachal Pradesh & Kerala.
- Large beaked toucans are observed in Central & South America as an example of convergent evolution & they have the same feeding ecology.





2. Tall Trees

- Hornbills prefer tall trees for their nests, with their height being 1.5 meters or more.
- There is a mutualism between these birds & the trees where they nest.
- As large fruit-eating birds, hornbills play a vital role in dispersing the seeds of about 80 rainforest trees.
- Trees like Cup-calyx white cedar suffer a 90% decline in seed dispersal beyond the parent tree when the hornbill population decline.
- The towering Tualang tree of Southeast Asia is entwined in folklore that it is considered taboo to feel this tree.
- It is the preferred habitat of the helmeted hornbill.
- The fruiting season coincides with the birds' reproductive cycle.
- Traditional ecological knowledge stresses the value of hornbills in dispersing the seeds, which are expectorated from birds' throats.

3. Hunting

• Tall trees are the first targets of illegal logging & there is a slow decline in hornbill numbers, as reflected in bird counts.



- It is slow because these birds are long-lived for nearly 40 years.
- Their large size makes them prone to hunting.
- The helmeted hornbill of Sumatra & Borneo is critically endangered because of its helmet-like casque called red-ivory, which is highly-priced.
- Hornbill population appears to be faring better in South India.
- The Nature Conservation Foundation, Mysuru collected data to show that forest plantations are not suited for hornbill populations.
- The adaptable nature of hornbills is seen in their feeding on the fruits of the African Umbrella tree, which was introduced as a shade tree in coffee plantations.

GS II: Polity

JUDICIARY AND GOVERNMENT

1. Context

A major confrontation on between the union government and the Supreme Court over the former's resentment towards the collegium system of appointments and its push to have a dominant say in judicial appointments and transfers.

2. Indian Judiciary

- The Judiciary is one of the three organs of the Indian government, and it is responsible for interpreting and applying the law. The Indian judiciary is an independent body that ensures the fair and impartial administration of justice in the country.
- The judiciary has a hierarchical structure, with the Supreme Court at the top followed by the High Courts, and then the lower courts.
- The Supreme Court is the highest court of appeals in India. It comprises the Chief Justice and 33 other judges appointed by the President of India. The Supreme Court has original, appellate, and advisory jurisdiction.



- At the level below the Supreme Court, there are High Courts. They exercise control over a state or a union territory. Each High Court consists of a Chief Justice and such other number of judges as may be determined by Parliament.
- At the lowest level, Subordinate courts include District Courts, Taluka Courts, Munsifs Magistrates' Courts, and Village Panchayat Courts, etc.

3. Issues in Indian Judiciary

3.1 Lack of accountability in judicial appointments:

- At present, the judges of the Supreme Court and the high courts are appointed by a collegium system which includes CJI and 4 senior judges of the Supreme Court.
- Although there have been many debates associated with the method of appointing by a collegium system which includes CJI and 4 senior judges of the Supreme Court.
- o The minutes of the collegium meetings deciding appointments and transfers of judges are not made public. The office of CJI has only recently been declared a public office.
- o There have been no appointments from the category of distinguished jurists as mentioned under Article 124 of the constitution.
- o It's a non-constitutional body with no seat in the collegium for any non-judge neither from the executive, the Bar, etc. This violates the principle of checks and balances.

3.2 Distribution of Cases and master of the Roster mechanism

- o The singular power of the CJI as the Master of the Roster-i.e., the vest exclusive discretion in the chief justice to constitute benches and allocate cases.
- While the CJI's other powers such as recommending appointments to constitutional courts are shared with other senior judges, the power of Master of the Roster is enjoyed without scrutiny.
- From the standpoint of judicial independence, the master of the roster power makes the CJI's office a high-stakes one. It makes the CJI the sole point of defense of the court against executive interference.



- With the CJI as the sole master of the Roster, any executive seeking to influence the Supreme Court needs only a pliant CJI. Yet, the Supreme Court has been reluctant to dilute this power.
- o In Ashok Pande v. Supreme Court of India (2018), a three-judge bench of the court held that the master of the roster is the CJI's exclusive power.
- o Thereafter, a two-judge bench in Shanti Bhushan v. Supreme Court of India (2018) rejected the plea that the master of the roster should be interpreted as the collegium.

3.3 The in-house inquiry system

- o The in-house procedure, crystallized in a 1995 Supreme Court judgment in the C. Ravichandran Iyer case, details the various stages of the investigation into complaints against sitting high court judges.
- It requires the chief justice of India to constitute a three-member panel of Supreme Court judges to enquire into a complaint of misconduct received by the CJI against a sitting judge.
- o The procedure, however, does not expressly provide for a mechanism to constitute a committee when the complaint is against the CJI himself.
- Controversy erupted when CJI constituted the bench by himself to probe a complaint against himself. The bench consisted of senior most judges of SC who will be CJI in near future. Since the current CJI will recommend the name of the next CJI, this raises the question of conflict of interest.
- The committee lacked overall representation of all stakeholders of SC e.g bar council, employees, etc. It also violates the principle of natural justice.

4. Memorandum of Procedure (MOP)

Memorandum of procedure (MOP) is an agreement between the judiciary and the government. It contains a set of guidelines for making appointments to the Supreme Court and high court.

Significance: The MoP is a crucial document as the collegium system of appointing judges is a judicial innovation that is not mandated through legislation or the text of the constitution.

5. Evolution of MoP



- The MoP evolved based on three SC decisions- the first judge case (1981), Second Judge Case (1993), and the third judge Case (1998).
- In 2016, the MoP re-negotiations took place following the Supreme Court's decision to strike down the National Judicial Appointments Commission (NJAC).
- However, a judicial order can overturn the negotiations as an order of the SC is the law of the land binding the government.

6. Government's Grievances

The center argues that the collegiums, both at the Supreme Court and high court levels, are delaying judicial appointments. The NJAC was a good law thwarted by the court. It says that the High courts are not making recommendations six months in advance of a vacancy.

The government has complained that the Supreme Court reject 25% of names recommended by the high courts for judgeships. While making 165 appointments during 2022, 221 recommendations made by the high courts were processed. The remaining 56 proposals were rejected by the Supreme Court collegium.

7. Supreme Court's Response

The court said the collegium system, combined with the MoP, is the law as it exists now. The government has either kept collegium recommendations pending for no apparent reason or has repeatedly sent back names reiterated by the collegium. The court accused the government of not appointing persons who are not "palatable" to it.

GS II: Polity

GREATER TIPRALAND

1. Context



Several tribal organizations in Tripura have recently joined together to push for the creation of Greater Tipraland, a separate state for indigenous peoples in the region.

TIPRA Motha (Tipraha Indgenious Progressive Regional Alliance) and IPFT (Indigenous People's Front of Tripura) are among the political groups that have come together for the cause.

2. Historical Background

- Tripura was a kingdom ruled by the Manikya dynasty from the late 13th century until the signing of the Instrument of Accession with the Indian government in 1949.
- The demand stems from the anxiety of the indigenous communities in connection with the change in the demographics of the state, which has reduced them to a minority.
- It happened due to the displacement of Bengalis from erstwhile East Pakistan between 1947 and 1971.
- From 63.77 % in 1881, the population of the tribals in Tripura was down to 31.80% by 2011.
- In the intervening decades, ethnic conflict and insurgency gripped the state, which shares a nearly 860-km-long boundary with Bangladesh.
- The joint forum has also pointed out that the indigenous people have not only been reduced to a minority but have also been dislodged from the land reserved for them by the penultimate king of the Manikya dynasty Bir Bikram Kishore Debbarman.

3. Their Main Demand

- The parties are demanding a separate state of Greater Tipraland for the indigenous communities of the northeastern state.
- o They want the center to carve out a separate state under Articles 2 and 3 of the constitution.
- Among the 19 notified Scheduled Tribes in Tripura, Tripuris (aka Tipra and Tiprasas) are the largest. According to the 2011 census, there are at least 5.92 lakh Tripuris in the state, followed by Bru or Reang (1.88 lakh) and Jamatis (83,000).





4. What does the constitution say?

Article 2 of the constitution deals with the admission or establishment of new states. "Parliament may by law admit into the Union, or establish, new states on such terms and conditions, as it thinks fit, "it states.

Article 3 comes into play in the case of the formation of new states and the alteration of areas, boundaries, or names of existing states by the parliament.

5. Initiatives to resolve the problem

Tripura Tribal Areas Autonomous District Council (TTADC)

- The Tripura Tribal Areas Autonomous District Council (TTADC) was formed under the sixth schedule of the Constitution in 1985 to ensure the development and secure the rights and cultural heritage of the tribal communities.
- The TTADC, which has legislative and executive powers, covers nearly two-thirds of the state's geographical area.



- The council comprises 30 members of which 28 are elected while two are nominated by the Governor.
- Also, out of the 60 Assembly seats in the state, 20 are reserved for scheduled Tribes.
- 'Greater Tipraland' envisages a situation in which the entire TTADC area will be a separate state.
- It also proposes dedicated bodies to secure the rights of the Tripuris and other aboriginal communities living outside Tripura.

GS III: Environment & ecology

AICHI TARGETS

1. Why in news

Delegates from 196 countries which are Parties to the United Nations Convention on Biological Diversity (CBD) are meeting in Montreal, Canada from December 7-21 with the aim to hammer out a new global agreement on halting environmental loss

Many of the 24 conservation targets under discussion at the 15th Conference of the Parties (COP15) aim to avoid past mistakes and improve on the world's last set of conservation goals of **the Aichi Biodiversity Targets** that expired in 2020

2. What are aichi targets

The Aichi Targets, adopted during the 2010 CBD summit in Nagoya, located in Japan's Aichi prefecture, included goals such as reducing deforestation by at least half during the coming decade and curbing pollution so that it no longer harmed ecosystems

Many of the targets, however, included vague language and did not hold countries to a specific action

After parties adopted the Aichi Targets, they were expected to devise their own national biodiversity strategies that would mimic the goals laid out by Aichi Nearly all parties created these strategies, but most were never fully implemented 2.1.Goals



Strategic Goal A	Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society
Strategic Goal B	Reduce the direct pressures on biodiversity and promote sustainable use
Strategic Goal C	To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity
Strategic Goal D	Enhance the benefits to all from biodiversity and ecosystem services
Strategic Goal E	Enhance implementation through participatory planning, knowledge management and capacity building

3. Key takeaways

- The most notable Aichi objective and one of the few to include a numerical goal aimed to protect or conserve 17% of all land and inland waters and 10% of the ocean by the end of the decade
- While some progress was made toward that goal, the world ultimately fell short. Today about 15% of the world's land and 8% of ocean territories are under some form of protection, though the level of protection varies
- About 10% of the targets saw no significant progress, the assessment found. Six of the targets, including the land and ocean conservation target, were deemed "partially achieved"
- In the end, Aichi was deemed a failure by the United Nations and the CBD secretariat called on parties to come up with another guiding document to direct conservation efforts through 2030 and beyond

4. Aichi target failures

 A lack of clearly defined metrics by which to gauge progress made the Aichi goals tough to implement



- One of the reasons the world was able to meet the goal for conserving 17% of land areas globally
- A lack of financing to help developing countries meet the Aichi goals was also an obstacle to their success a point that has led negotiators to include financing plans within the draft being negotiated at the Montreal talks
- The Global Environment Facility, the primary source of financing for international biodiversity protection, has collected around \$5 billion from 29 countries for the funding period from 2022 to 2026
- That is hardly enough to make up the \$711 billion funding gap per year estimated by a 2019 assessment by several conservation institutes
- The Aichi Targets also failed to garner buy-in from governments beyond the environmental ministers who brokered the deal

GS II: International relations

LINE OF ACTUAL CONTROL (LAC)

1.Context

As tensions continue between India and China along the Line of Actual Control (LAC)

Indian and Chinese troops clashed in Arunachal Pradesh's Tawang sector in the early hours of December 9, beating each other up with sticks and canes in their closest encounter since the deadly Galwan incident in eastern Ladakh in June 2020. The Indian soldiers who were injured in the clash are recuperating in a Guwahati hospital





Pic credits: TRT WORLD

2. About Line of Actual Control (LAC)

The LAC is the demarcation that separates Indian-controlled territory from Chinese-controlled territory.

India considers the LAC to be 3,488 km long, while the Chinese consider it to be only around 2,000 km

It is divided into three sectors:

The eastern sector which spans Arunachal Pradesh and Sikkim,
The middle sector in Uttarakhand and Himachal Pradesh, and the western sector in
Ladakh

3. The disagreement

- The alignment of the LAC in the eastern sector is along the 1914 McMahon Line, and there are minor disputes about the positions on the ground as per the principle of the high Himalayan watershed
- This pertains to India's international boundary as well, but for certain areas such as Longiu and Asaphila
- The line in the middle sector is the least controversial but for the precise alignment to be followed in the Barahoti plains.
- The major disagreements are in the western sector where the LAC emerged from two letters written by Chinese Prime Minister Zhou Enlai to PM Jawaharlal Nehru in 1959, after he had first mentioned such a 'line' in 1956.



- In his letter, Zhou said the LAC consisted of "the so-called McMahon Line in the east and the line up to which each side exercises actual control in the west"
- After the 1962 War, the Chinese claimed they had withdrawn to 20 km behind the LAC of November 1959
- During the Doklam crisis in 2017, the Chinese Foreign Ministry spokesperson urged India to abide by the "1959 LAC"
- India rejected the concept of LAC in both 1959 and 1962. Even during the war, Nehru was unequivocal: "There is no sense or meaning in the Chinese offer to withdraw twenty kilometres from what they call 'line of actual control'

4.India's agreement to LAC

- LAC was discussed during Chinese Premier Li Peng's 1991 visit to India, where PM P V Narasimha Rao and Li reached an understanding to maintain peace and tranquillity at the LAC.
- India formally accepted the concept of the LAC when Rao paid a return visit to Beijing in 1993 and the two sides signed the Agreement to Maintain Peace and Tranquillity at the LAC
- o The reference to the LAC was unqualified to make it clear that it was not referring to the LAC of 1959 or 1962 but to the LAC at the time when the agreement was signed
- o To reconcile the differences about some areas, the two countries agreed that the Joint Working Group on the border issue would take up the task of clarifying the alignment of the LAC

5. How is the LAC different from the Line of Control with Pakistan?

The LoC emerged from the 1948 ceasefire line negotiated by the UN after the Kashmir War. It was designated as the LoC in 1972, following the Shimla Agreement between the two countries. It is delineated on a map signed by DGMOs of both armies and has the international sanctity of a legal agreement.

The LAC, in contrast, is only a concept – it is not agreed upon by the two countries, neither delineated on a map or demarcated on the ground.



GS II: Polity

ELECTORAL BONDS

1. Context

Political parties collected Rs 676.26 crores in the 23rd phase of the sale of electoral bonds (EBs) between November 11 and 15, ahead of the Assembly elections in Gujarat and Himachal Pradesh.

2. Key points

- As much as Rs 660.25 crores of EBs 97.63 per cent of the bonds sold were encashed by political parties at the New Delhi Main branch of State Bank of India.
- SBI is the only bank authorised to issue EBs to political parties.
- SBI said EBs worth Rs 309.45 crores were sold by the Mumbai Main branch and Rs 222.40 crores by the New Delhi Branch.
- With this, the total amount collected by parties through EBs has gone up to Rs 11, 467 crores from various anonymous donors in 23 phases since 2018 when the Electoral Bond Scheme was introduced.

Anonymous donors had given Rs 545 crores in the 22nd sale of EBs conducted between October 1 and 10, according to data available from SBI. Parties got 1,221 crores in the last two months and Rs 389.50 crores in the previous sale in July this year.

3. Electoral bonds

- Simply, electoral bonds are a debt instrument through which anyone can donate money to political parties.
- Such bonds are a debt instrument through which anyone can donate money to political parties.
- Such bonds are sold in multiples of Rs 1,000, Rs 10, 000, Rs 1 lakh, Rs 10 lakh and Rs 1 crore and can be bought from authorised branches of the State Bank of India.



A donor is required to pay the amount say Rs 10 lakh via a cheque or a digital mechanism (cash is not allowed) to the authorised SBI branch. The donor can then give this bond (just one, if the denomination chosen is Rs 10 lakh or 10, if the denomination is Rs 1 lakh) to the party or parties of their choice.

- The political parties can choose to encash such bonds within 15 days of receiving them and fund their electoral expenses.
- On the face of it, the process ensures that the name of the donor remains anonymous.

4. Reasons for introducing electoral bonds

The central idea behind the electoral bonds scheme was to bring about transparency in electoral funding in India.

- 1. The country has not been able to evolve a transparent method of funding political parties which is vital to the system of free and fair elections.
- 2. Political parties continue to receive most of their funds through anonymous donations which are shown in cash.
- 3. An effort, therefore, requires to be made to cleanse the system of political funding in India.

5. Introducing electoral bonds

Formally these bonds were introduced in 2018 with two main changes.

- 1. The reduction of the amount of money that a political party could accept in cash from anonymous sources from Rs 20, 000 to Rs 2, 000.
- 2. The introduction of electoral bonds is a way to make such funding more transparent.

6. Criticism

• The central criticism of the electoral bonds scheme is that it does the exact opposite of what it was meant to do: Bring transparency to election funding.



- The anonymity of electoral bonds is only for the broader public and opposition parties.
- The fact that such bonds are sold via a government-owned bank (SBI) leaves the door open for the government to know exactly who is funding its opponents.
- This, in turn, allows the possibility for the government of the day to either extort money, especially from the big companies or victimise them for not funding the ruling party either way providing an unfair advantage to the party in power.
- Further, one of the arguments for introducing electoral bonds was to allow common people to easily fund political parties of their choice but more than 90 per cent of the bonds have been of the highest denomination (Rs 1 crore).

7. Learning outcomes

- Moreover, before the electoral bonds scheme was announced, there was a cap on how much a company could donate to a political party: 7.5 per cent of the average net profits of a company in the preceding three years.
- However, the government amended the Companies Act to remove this limit, opening the doors to unlimited funding by corporate India.

8. Election commission's stand

- The Election Commission, in its submission to the Standing Committee on Personnel, Public Grievances, Law and Justice in May 2017, had objected to the amendments in the Representation of the People (RP) Act, which exempt political parties from disclosing donations received through electoral bonds. It described the move as a "retrograde step".
- In a letter written to the Law Minister the same month, the Commission had even asked the government to **'reconsider'** and **"modify"** the above amendment.

Asking the government to withdraw the new proviso, the EC had written, "In a situation where the contribution received through electoral bonds are not reported, on perusal of the contribution report of political parties, it cannot be ascertained whether the political party has taken any donation in violation of provision under



Section 29(b) of the RP Act which prohibits the political parties from taking donations from government companies and foreign sources".

EAGLE ACT

1.Context

The White House has supported Congress to pass legislation that seeks to eliminate the per-country quota on green cards to allow US employers to focus on hiring people based on merit, not their birthplace, a bill, if passed, would benefit several hundreds of thousands of immigrants specially Indian-Americans

2. About Eagle Act

This legislation going to remove the per-country cap on permanent residency visas, or green cards, for the US. This was introduced in the House of Representatives in 2021. Democrat Representative Zoe Lofgren and Republican John Curtis introduced the Equal Access to Green cards for Legal Employment (EAGLE) Act of 2021

3.Green Card

A Green Card, known officially as a Permanent Resident Card, is a document issued to immigrants to the US as evidence that the bearer has been granted the privilege of residing permanent

4. Benefits to Indians

• 75 percent of the backlog for employment-based visas was made up of Indians. "Backlogged Indian workers face an impossible wait of nine decades if they all could remain in the line. More than 200,000 petitions



filed for Indians could expire as a result of the workers dying of old age before they receive green cards

- With the EAGLE Act, the per-country cap would be removed, which may expedite the petitions for those applying for employment-based green cards.
- However, since the highest number of applicants is from India and China, the EAGLE Act also seeks to reserve visas for 'Lower Admission States' for nine fiscal years (FY).
- While 30 percent of employment-based visas will be reserved in FY1, this would be reduced to five percent in FY 7, 8, and 9.
- The bill also ensures that "no country may receive more than 25 percent of reserved visas and no country may receive more than 85 percent of unreserved visas," in the nine fiscal years.

5.The implication of Act on Indians

The bill will be advantageous for Indian job-seekers who currently rely on temporary visas or await green cards to work in the US.

This legislation would be life-changing for hundreds of thousands of immigrants currently stuck in legal limbo as they wait for green cards

The bill will also enable individuals who have been waiting in the immigrant visa backlog for two years to file their green card applications

6. The implication of Act on America

It will benefit the US economy by allowing American employers to focus on hiring immigrants based on their merit.

GS III: Science & technology

FUSION ENERGY

1. Context

The US Department of Energy will announce a breakthrough in nuclear fusion technology this week.



2. Key points

- The announcement was made shortly after the Financial Times reported scientists at the California-based Lawrence Livermore National Laboratory (LLNL) successfully generated a "Net energy gain" using nuclear fusion in a lab for the first time.
- For decades, scientists have pumped more energy into experimental fusion reactors than the total new energy created in the process.
- This setback has made nuclear fission not fusion the default preference in the pursuit of limitless, zero-carbon power, despite its health and safety risks.

3. Future of Energy

- The nuclear fusion reaction has a higher energy potential than all other energy sources we know.
- o It can release nearly 4 million times more energy than chemical reactions like burning coal, oil or gas and four times more than nuclear fission, the process, currently used in all nuclear power plants around the world.
- o Discovered in the early 20th century, fusion is seen as the future of energy by many policymakers, especially in Europe.

4. Nuclear Fusion Project

- The International Thermonuclear Experimental Reactor (ITER) is a large collaborative project between nuclear fusion experts from 35 nations.
- Located a couple of hours from the scenic coast of southern France, ITER stands out along the idyllic landscape surrounding it.
- The project's compound is laden with metal sheds, workshops and equipment.
- Busy scientists and technicians roam the reactor's campus in hard hats, rubber boots and neon vests.
- The future of fusion energy is bright and generating fusion energy is like burning firewood.

5. Energy from nuclear fusion



- Atoms are composed of a nucleus (Containing protons and neutrons) and electrons.
- In fusion, two atoms are merged into one by smashing their nuclei.
- In a bid to achieve a stable nucleus, the newly formed atom sometimes chucks out a high-energy neutron previously used to bind the neutron to the nucleus.
- Nuclear fusion scientists want to convert this excess energy into electricity that lights up our homes.

6. Fusion Vs. Fission

- In fission, instead of fusing two light atoms, a heavy atom is split into two or more.
- All nuclear power plants in the world use fission reactors to generate electricity.
- France, where ITER is located, gets 70 per cent of its energy from nuclear fission.

It is not a popular source of fuel in most countries due to public fears of harmful radiation, stoked by accidents such as

- 1. The Chornobyl disaster,
- 2. Meltdown at Fukushima and
- 3. The US Three Mile Island partial meltdown.
- The main difference between nuclear fission and fusion is the radioactivity of the fuel each method creates.
- o "In fission, the uranium that you use and the plutonium that you create are both radioactive and once you have gotten the energy out of them, you are still left with radioactive material."
- Of the two base materials considered most efficient for fusion energy, deuterium is not radioactive, but tritium is. However, its radiation is comparatively weak and short-lived.
- o The materials are correct even on an industrial scale they limit the radioactivity from fusion to 100 to 200 years, which is far more manageable than if you talk about the 40, 000 years we see in fission.



7. Green Advantage

- In addition to being highly efficient, proponents say nuclear energy could dramatically reduce our dependence on fossil fuels.
- Nuclear energy itself is considered a carbon-free alternative to fossil fuels because its creation does not emit greenhouse gasses its major byproduct is helium, an inert, non-toxic gas.
- Further, deuterium is abundant in seawater and scientists are trying to produce tritium using lithium in situ.
- Renewable energy sources like wind and solar alone cannot meet global baseline energy needs.
- Nuclear fusion, if successful, could provide well above that.
- While all of this sounds rosy, it is still a distant dream.
- For fusion to become a reality we need a technological breakthrough in plasma physics.

8. Fusion on Earth

- Technically, it's difficult to achieve a fusion reaction that is self-sustained and stable.
- The sunshine and the warmth we feel on Earth are the results of fusion the process occurs naturally in the core of the sun under extreme temperature and pressure.
- The challenge is to replicate what happens in the sun's core without the pressure arising from the gravity of the sun's heavy mass.
- To achieve fusion on Earth, gasses need to be heated to extremely high temperatures of about 150 million degrees Celsius (270 million degrees Fahrenheit), around 10 times the temperature of the sun's core.
- At this point, the gasses become plasma, which is nearly a million times lighter than the air we breathe.
- All the protons, neutrons and electrons that compose it are separated.
- Fusion researchers have established that creating a plasma by heating a mixture of deuterium and tritium is the easiest way to achieve an environment to fuse and yield energy.
- At ITER, a device called the tokamak uses a strong magnetic field to confine the plasma used for fusion experiments.



- In these extreme conditions particles in this plasma collide rapidly, creating heat.
- But paradoxically, as the temperature rises even further, the collision rate and therefore the heating effect drops.
- It is like the plasma is switched off beyond a certain point.
- To go back to the wood analogy, it is like not knowing how to ignite a fire that will sustain the "burning plasm".
- This is the biggest challenge faced by fusion experiments around the world.

9. The Safety fuse

- What is one's woe is another's boon. The "switching off" of the plasma in unfavourable conditions also means that the reaction stops if there is any instability. This makes fusion safer than fission.
- A meltdown like the one at Fukushima is unlikely to happen in a fusion reactor, says Gilles Perrier, head of safety and quality at ITER.
- o In a fission reactor, there would be a radioactive core that would still need to cool if the reactor were to shut down.
- o In fission, the risk of an accident is much higher. In fusion, it is really low.

The safety in a fusion plant has three parts to it:

- 1. Confinement of plasma
- 2. Reduction of radiation exposure and
- 3. Prevention of tritium contamination.
- o The plasma is confined in a vacuum vessel.
- Even in the worst-case scenario of a plasma leak, the impact will be confined to the site.

10. From experiment to electricity

- At this point, the most electricity scientists have been able to generate from fusion is 59 megajoules of energy over five seconds.
- That is about enough electricity to run a small light bulb for two months.
- The challenge scientists are grappling with now is how to produce this fuel on a larger scale.



- The ongoing from a fusion experiment to an electricity-generating reactor is like going from burning some wood to a coal power plant.
- While it is a huge challenge that the experimental reactor at ITER will be functional by the end of the decade and can help set up a demo power plant in the next 30 years.
- At the end of the day, nuclear fusion technology will take time which some scientists say we don't have.

11. The Way Forward

- Fusion power certainly cannot solve the energy crisis this winter and it won't help cut emissions soon.
- In his book "The Fairy Tale of Nuclear Fusion," nuclear scientist LJ Reinders suggests that fusion power will arrive too late to help alleviate our urgent climate problems.
- Investing in nuclear fusion is not about addressing our energy needs of today but in the second half of the century.

GS I: Geography

CYCLONES

1. Context

Cyclone Mandous which emerged from the Bay of Bengal made landfall in Mamallapuram on Friday night.

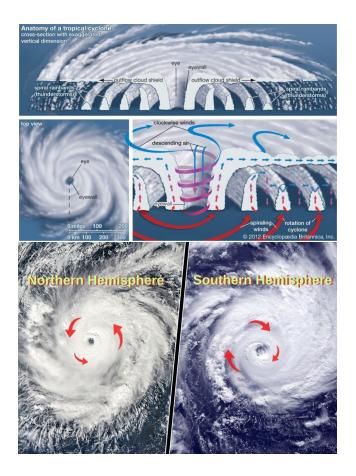
2. What is a Cyclone

• A cyclone is a low-pressure system that forms over warm waters. Essentially, it is a system of high-speed winds rotating around a low-pressure area, with the winds blowing counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.



- According to the World Meteorological Organization, "Tropical cyclones are one of the biggest threats to life and property even in the formative stages of their development.
- Cyclonic winds move across nearly all regions of the Earth except the equatorial belt and are generally associated with rain or snow
- They include several different hazards that can individually cause significant impacts on life and property, such as storm surge, flooding, extreme winds, tornadoes and lighting.
- Combined, these hazards interact with one another and substantially increase the potential for loss of life and material damage."
- Cyclones occur chiefly in the middle and high latitude belts of both hemispheres. In the Southern Hemisphere, where most of the terrestrial surface is covered by the oceans, cyclones are distributed in a relatively uniform manner through various longitudes
- Characteristically, they form in latitudes 30° to 40° S and move in a generally southeasterly direction, reaching maturity in latitudes around 60°.
- Cyclones that form closer to the Equator (i.e., at latitudes 10° to 25° north and south over the oceans) differ somewhat in character from the extratropical variety. Such wind systems, known as tropical cyclones, are much smaller in diameter.
- Whereas extratropical cyclones range from nearly 1,000 to 4,000 km (620 to 2,500 miles) across, tropical cyclones typically measure only about 100 to over 1,000 km in diameter.





PC: Brittanica

3. Types of cyclones

3.1. Tropical Cyclones

Cyclones developed in the tropics region (the majority confined to 10^0 – 30^0 N and S of the equator) are called tropical cyclones.

- tropical cyclones have a **thermal origin**, and they develop over tropical seas during certain seasons. Pre-existing low pressure, large sea surface with a temperature higher than 27° C, and the presence of the Coriolis force are a must for tropical cyclone formation.
- At these locations, the local convectional currents acquire a whirling motion because of the Coriolis force generated by the earth's rotation. After



developing, these cyclones advance till they find a weak spot in the trade wind belt.

Tropical cyclones always originate in large water bodies.

3.2. Temperate Cyclone

Temperate cyclones (Mid-Latitude cyclones), also known as Extratropical cyclones, are active over the mid-latitudinal regions between 35° latitude and 65° latitude in both hemispheres.

- They have a dynamic origin and cyclone formation is due to frontogenesis (interaction of cold and warm fronts). When the warm-humid air masses from the tropics meet the dry-cold air masses from the poles and thus a polar front is formed as a surface of discontinuity. The cold air pushes the warm air upwards from underneath. Thus, a void is created because of the lessening of pressure. The surrounding air rushed in to occupy this void and coupled with the earth's rotation, a temperate cyclone is formed.
- Temperate cyclones can originate on both landmass or water.

4. How are cyclones named?

Cyclones that form in every ocean basin across the world are named by the regional specialised meteorological centres (RSMCs) and Tropical Cyclone Warning Centres (TCWCs). There are six RSMCs in the world, including the India Meteorological Department (IMD), and five TCWCs.

As an RSMC, the IMD names the cyclones developing over the north Indian Ocean, including the Bay of Bengal and the Arabian Sea, after following a standard procedure. The IMD is also mandated to issue advisories to 12 other countries in the region on the development of cyclones and storms.

GS II: International organisations



ORGANISATION OF ISLAMIC COOPERATION (OIC)

1. Context

The 48th session of the council of foreign ministers of the Organisation of Islamic Cooperation (OIC) opened in Islamabad.

2. Organization of Islamic Cooperation (OIC)

- The Organization of Islamic Cooperation is an international organization founded in 1969, consisting of 57 member states.
- It is the second largest inter-governmental organization after the United Nations.
- The organization states that it is "the collective voice of the Muslim world" and works to "safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony."
- The OIC has permanent delegations to the United Nations and the European Union.
- Permanent Secretariat is in Jeddah, Saudi Arabia.
- Like NAM again, the OIC is a toothless tiger when it comes to dealing with squabbles among member states.

3. Membership

It is the second largest inter-governmental organization after the united nations with a membership of 57 states, Of these, 47 are Muslim Majority countries. Bosnia and Herzegovina: Central African Republic; Thailand; Russia and Turkish Cypriot state are the observer country.

4. Objective

o The main motive of the organization is to safeguard and protect the interest of the Muslim world in the spirit of promoting international peace and harmony among various people of the world.



The organization was established upon a decision of the historical summit which took place in Rabat, Kingdom of Morocco 25 September 1969 as a result of criminal arson of Al-Aqsa Mosque in occupied Jerusalem.

5. Priority Areas

The priority areas include issues of peace and security, Palestine and Al-Quds, Poverty Alleviation, Counter-terrorism, Investment and Finance, Food Security, Science and Technology, Climate change and Sustainability, Moderation, Culture, and Interfaith Harmony, Empowerment of Women, Joint Islamic Humanitarian Action, Human Rights and Good Governance among others.

6. India and OIC Relation

- o India's relationship with Pakistan has always been tense and has a direct impact on India-OIC relations, with Pakistan being a founding member of the OIC. India has pushed for the OIC to accept India as a member, and Pakistan opposes India's entry into the OIC.
- India was invited to attend the first summit of the OIC 50 years ago in 1969
 Morocco. But the Indian delegations had to return midway due to a withdrawal of the invitation after Pakistan's objection.
- o In 2002, it was Qatar that first proposed observer status for India at the OIC foreign ministers' meets but Pakistan had consistently blocked the move.
- o In 2018, Bangladesh along with Turkey proposed restructuring of the charter of the Organisation of Islamic Cooperation to pave way for the inclusion of Non-Muslim countries like India as an 'observer state'.
- For the first time in five decades, the United Arab Emirates invited the foreign minister of India Sushma Swaraj to attend the inaugural plenary 46th meeting of OIC foreign ministers. (Pakistan boycotted the meet).
- o From the mid-1990s, when this contact Group was formed, it has issued several statements on behalf of Pakistan (On the Kashmir issue).
- The United Arab Emirates, for instance, conferred the "Order of Zayed", its highest civilian award on Prime Minister Narendra Modi, more than a week after New Delhi's moves on Article 370, and declared that Kashmir was India's internal matter.

7. OIC Stands on Kashmir



- The OIC has been generally supportive of Pakistan's stand on Kashmir and has issued statements criticizing the alleged Indian "atrocities" in the state.
- However, New Delhi has long been used to combating these statements and has consistently and forcefully put forward its position.
- Importantly, Pakistan's position in the OIC aside, New Delhi is hardly friendless in the organization.
- India has excellent relations individually with almost all member nationsand this is a reason why it can mostly afford to not take the statements issued by the group as a whole seriously.

GS III: Science & technology

ANEURYSM

1. Context:

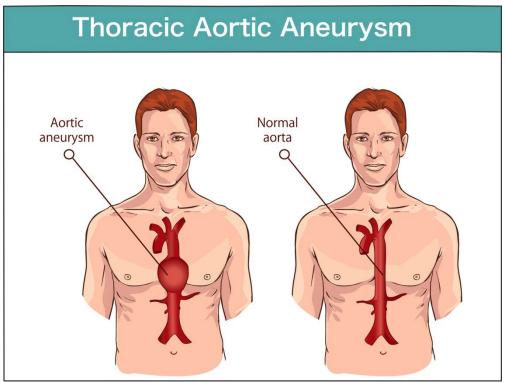
American Football writer Grant Wahl, seemingly healthy, suddenly died last week with suspecting foul play. His autopsy found that Wahl had an "Ascending Thoracic Aortic Aneurysm."

2. Condition:

- An aneurysm is a localised weakening of the wall of a blood vessel, causing the vessel to bulge in that area.
- It increases in size over time & the wall of the blood vessel affected gets progressively weaker.
- The vessel may ultimately burst or separate, triggering a bleeding rush that can be lethal.



• An aortic aneurysm is a weakening & bulging in a portion of the aorta, the main artery that ships blood out from the heart, 'thoracic' refers to the chest region.



3. Causes:

- 1. Degenerative disease breaking down the aortic wall tissue.
- 2. Genetic disorders
- 3. Family history
- 4. Inflammation of arteries
- 5. Plaque build-up on the artery walls.
- 6. Marfan syndrome is a genetic disorder that increases the risk of aortic aneurysms.

As per CDC(Centre for Disease Control & Prevention), the syndrome is present in around 1 in 5,000 individuals & limits the body's ability to make the proteins needed to build connective tissue.

4. Symptoms:



Symptoms of thoracic aortic aneurysm may depend on the location, size & speed of growth of the bulging, often there won't is any symptoms at all.

- 1. Pain in the jaw, neck, chest, and upper back
- 2. Wheezing, coughing, and shortness of breath due to pressure on the trachea.
- 3. Hoarseness due to the pressure on the vocal cords.
- 4. Trouble swallowing due to pressure on the oesophagus

Medical attention is often delayed because these symptoms are not unique to this condition.

5. Diagnosis & Treatment:

- A doctor looks at the patient's medical history & carries out a detailed physical examination, including a CT scan, MRI, echocardiogram, chest X-ray & an arteriogram(angiogram).
- Treatment includes monitoring the size & rate of growth of the bulge & managing risk factors like quitting smoking, controlling blood sugar, losing weight & eating healthy.
- Medicines may be prescribed for high cholesterol or high blood pressure.
- Surgical intervention is needed when an aneurysm is large & causing symptoms.
- This may include thoracic aortic aneurysm open repair or Endo Vascular Aneurysm Repair(EVAR).
- Surgeries can remove the aneurysm or insert a stent to support the blood vessel against possible rupture.

Mains Corner

- **1.** What is 'end-to-end encryption? How does it protect data? Explain with the help of suitable examples.
- 2. What are Biennales and discuss the significance of art biennales. (250 Words)
- 3. Friction between Judiciary and Government on appointments to the Tribunals calls for establishing a national commission. Analyze (250 Words)



4. What is this 'line of control'? Is this the line China have created by aggression. Comment (250 Words)

5. What are electoral bonds and Discuss why the electoral bonds scheme is opposed by transparency activists (250 Words)

Prelims Corner

- 1. With reference to election security deposit, consider the following statements
- 1. It is an amount that is to be deposited with the Returning Officer when a candidate files their nomination.
- 2. The amount is same for all elections.
- 3. It is submitted either in cash, or a receipt must be enclosed with the nomination paper, showing that the said sum has been deposited on the candidate's behalf in the Reserve Bank of India or in a Government Treasury.
- A) Only one of the above statements are correct
- B) Only two of the above statements are correct
- C) All three above statements are correct
- D) None of the statement is correct

Answer (B)

In the case of an election from a Parliamentary constituency, meaning a Lok Sabha and Rajya sabha seat, the amount is Rs 25,000 and Rs 12,500 for a Scheduled Caste (SC) or Scheduled Tribe (ST) candidate.

- 2. With reference to G-7, consider the following countries
- 1. Canada
- 2. France
- 3. Russia
- 4. Japan



- 5. Argentina
- 6. US
- 7. UK

Which of the above countries are a part of G7?

- a) 1, 2, 3, 4, 6
- b) 2, 3, 4, 6, 7
- c) 1, 2, 4, 6, 7
- d) 1, 2, 3, 4, 5, 6, 7

Answer (C)

The G7 comprises these countries: Canada, France, Germany, Italy, Japan, the UK and the US. The European Union is also represented at all G7 meetings.

- 3. With reference to Aichi Biodiversity Targets, consider the following statements
- 1. They were adopted during the 2010 Convention on Biological Diversity (CBD) summit in Montreal.
- 2. No single country met the all 20 Aichi Targets within its own borders.
- 3. One of its most notable aim was to protect or conserve 17% of all land and inland waters and 10% of the ocean by the end of the decade.
- A) Only one of the above statements are correct
- B) Only two of the above statements are correct
- C) All three above statements are correct
- D) None of the statement is correct

Answer (B)

The Aichi Targets, adopted during the 2010 CBD summit in Nagoya, located in Japan's Aichi prefecture, included goals such as reducing deforestation by at least half during the coming decade and curbing pollution so that it no longer harmed ecosystems.

4. The term 'Sherpa' is often seen in news with respect to which International summit, conference or organisation?



- A) COP
- B) SAARC
- C) NAM
- D) G20

Answer (D)

As the first set of discussions under the Sherpa track of the G20 Summit concluded this week, and with the Finance track set to begin next week, India has set the stage for its year-long G20 Presidency with flavour, fervour and a clear-cut agenda that discernibly gravitates towards the focus areas of emerging economies. Coming after the Covid-19 pandemic and the Russia-Ukraine war, the conscious stance has been taken towards the "unheard voices" of the Global South to ensure discussions on inclusive growth amid economic concerns of rising debt, runaway inflation and slowdown.

- 5. With reference to cyclones, consider the following statements
- 1. A cyclone is a high pressure system that forms over warm waters.
- 2. Cyclones that form in every ocean basin across the world are named by the regional specialised meteorological centres (RSMCs) and Tropical Cyclone Warning Centres (TCWCs).
- 3. There are seven RSMCs in the world, including the India Meteorological Department (IMD), and five TCWCs.

Which of the above statements is/are correct?

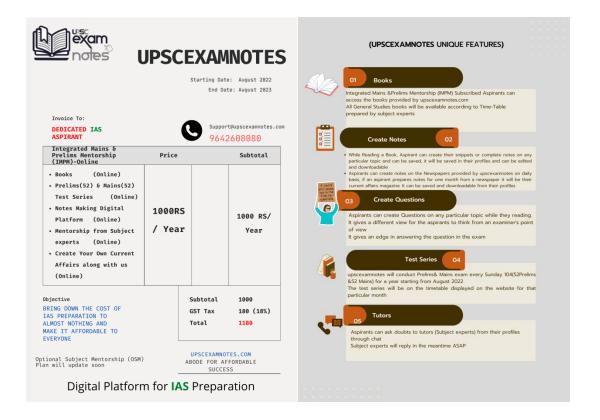
- a) Only 1
- b) Only 2
- c) Only 2 and 3
- d) All are correct

Answer (B)

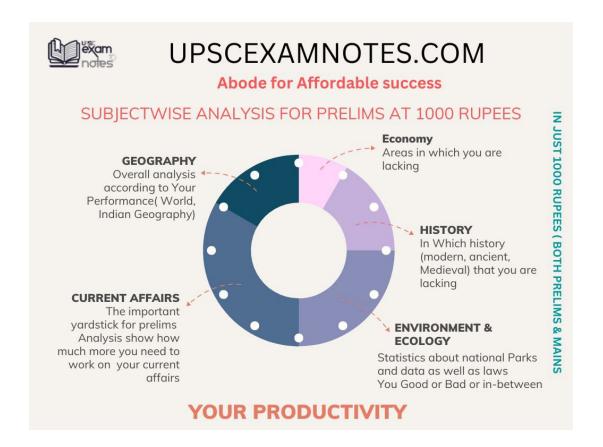
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A cyclone is a low pressure system that forms over warm waters.









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