

MANTHAN

OCTOBER 2024 : WEEK-2

Registered / Corporate Office:

CL Educate Limited, A – 45, Mohan Co-operative Industrial Estate, New Delhi – 110044

Contact No. 011-41280800 / 1100

www.careerlauncher.com www.cleducate.com



Contents

| | | |
|-----|---|----|
| 1. | What is the National Agriculture Code, currently being formulated by Bureau of Indian Standards? | 3 |
| 2. | India joins US-led Mineral Security Network to secure critical minerals..... | 5 |
| 3. | The Nobel Prize in Physics 2024 | 6 |
| 4. | Harappan civilization after 100 years of exploration | 8 |
| 5. | Cabinet approves conferring status of Classical Language to Marathi, Pali, Prakrit, Assamese and Bengali languages..... | 10 |
| 6. | Eight products used by Assam tribe granted GI tag | 12 |
| 7. | The Nobel Prize in Physiology or Medicine 2024 | 14 |
| 8. | Cabinet approves development of National Maritime Heritage Complex at Lothal, Gujarat | 16 |
| 9. | Centre, Tripura sign peace pact with Tripura insurgent groups | 18 |
| 10. | India-China border dispute..... | 22 |

1. What is the National Agriculture Code, currently being formulated by Bureau of Indian Standards?

- The Bureau of Indian Standards (BIS) has begun the process of formulating a National Agriculture Code (NAC), on the lines of the existing National Building Code and National Electrical Code.

What is the National Agriculture Code?

- The BIS is the national body which sets standards for different products across various economic sectors. In agriculture, it has already set standards for machinery (tractors, harvesters, etc.) and various inputs (fertilisers, pesticides, etc.)
- However, there are still many areas not covered by the BIS standards.
- For example, there is no standard for agriculture practices like preparation of fields, micro irrigation and water use.
- Thus, for a long time, policymakers have felt a need for a comprehensive standards framework, like the one now being formulated by the BIS.
- The NAC will cover the entire agriculture cycle, and will also contain a guidance note for future standardisation.
- The code will have two parts. The first will contain general principles for all crops, and the second will deal with crop-specific standards for the likes of paddy, wheat, oilseeds, and pulses.
- The NAC will serve as a guide for farmers, agriculture universities, and officials involved in the field.

What will the NAC cover?

- In addition to standards for agriculture machinery, the NAC will cover all agriculture processes and post-harvest operations, such as crop selection, land preparation, sowing/transplanting, irrigation/drainage, soil health management, plant health management, harvesting/threshing, primary processing, post-harvest, sustainability, and record maintenance.
- It will also include standards for input management, like use of chemical fertilisers, pesticides, and weedicides, as well as standards for crop storage and traceability.
- Crucially, the NAC will cover all new and emerging areas like natural farming and organic farming, as well as the use of Internet-of-Things in the field of agriculture.

What are the stated objects of the National Agriculture Code?

According to the BIS, the objectives are:

- To create an implementable national code covering recommendations for agriculture practices taking agroclimatic zones, crop type, socio economic diversity of the country and all aspects of agrifood value chain into consideration;
- To act as an enabler of quality culture in Indian agriculture by providing the required reference to policy makers, agriculture departments and regulators for incorporating the provisions of NAC in their schemes, policies, or regulations;
- To create a comprehensive guide for the farming community to ensure effective decision making in agricultural practices;

- To integrate relevant Indian Standards with recommended agricultural practices.
- To address the horizontal aspects of agriculture such as SMART farming, sustainability, traceability and documentation; and
- To aid in the capacity building program organized by agriculture extension services and civil society organisations.

What is the proposed timeline for this project?

- The BIS has already formulated a strategy to standardise practices.
- It has formed working panels for 12-14 specifically identified areas, which will include university professors and R&D organisations.
- These panels will draft the code, with a tentative deadline for the NAC set as October 2025.
- After this, the BIS plan to provide training to farmers on the NAC and its standards.
- The BIS will provide whatever financial assistance is needed for that.

What are Standardized Agriculture Demonstration Farms? How are they important?

- Apart from drafting the NAC, the BIS has also taken an initiative for setting up of 'Standardized Agriculture Demonstration Farm' (SADF) in selected agriculture institutes in the country.
- These farms will serve as experimental sites for testing and implementing various agricultural practices and new technologies in accordance with Indian Standards, according to the BIS.
- For the development of these specialised farms, the BIS plans to sign Memorandum of Understanding (MoUs) with premier agricultural institutes. "We have identified 10 prominent agricultural institutes, and will sign MoUs with them for the development of SADF's.
- These MoUs have been shared, and are currently being finalised.
- One of these two institutes is the Pantnagar-based Govind Ballabh Pant University of Agriculture and Technology (GBPUAT).
- The BIS will provide financial assistance to these institutes for setting up the SADFs, where anyone including officials responsible for extension activities, farmers or industry people can come and learn.

QUESTIONS

Fill in the Blank:

1. The Bureau of Indian Standards (BIS) is in the process of formulating the _____ to establish comprehensive standards for agricultural practices.
2. The National Agriculture Code (NAC) will cover the entire agriculture cycle and will consist of two parts: general principles for all crops and _____ standards.
3. The NAC will include standards for post-harvest operations, such as crop selection, land preparation, and _____ management.
4. In addition to machinery, the NAC will standardize the use of inputs like chemical fertilisers, _____, and weedicides.
5. The BIS aims to cover emerging areas like natural farming, organic farming, and the use of _____ in agriculture.
6. One of the key objectives of the NAC is to enable a quality culture in Indian agriculture by providing a reference to policymakers, agriculture departments, and _____.
7. The NAC will include recommendations based on agroclimatic zones, crop type, and the socio-economic _____ of the country.

8. The BIS plans to set up _____ at selected agricultural institutes to test and implement agricultural practices in accordance with Indian Standards.
9. The BIS has formed working panels consisting of university professors and _____ organisations to draft the NAC.
10. The Standardized Agriculture Demonstration Farms (SADF) will receive financial assistance from the _____ for their development.

2. India joins US-led Mineral Security Network to secure critical minerals

- India is now formally a part of the Minerals Security Finance Network, a US-led initiative aiming to strengthen cooperation among members to secure supply chains for critical minerals.
- The announcement, made by the US State Department on the margins of the United Nations General Assembly, involved a pact entered by 14 countries and the European Union.
- The Minerals Security Finance Network (MSFN) is a new initiative that stems from the Minerals Security Partnership (MSP), a framework established by the US in 2022.
- India was inducted to the MSP in June 2023.

Creating synergies by bringing together DFIs and ECAs

- The passage discusses the strengthening of the MSP (Minerals Security Partnership) with the addition of the MSFN (Minerals Security Finance Network), highlighting its significance in reducing reliance on countries like China for critical resources, especially rare earth minerals.
- The partnership emphasizes the need for both public and private sectors in member nations to collaborate to meet the rising global demand for critical minerals, essential for the clean energy transition.
- DFIs (Development Finance Institutions) and ECAs (Export Credit Agencies) from participating countries are working together to create synergies and increase impact in this sector.
- US Undersecretary of State Jose W. Fernandez expressed concerns about the energy transition being at risk due to limited production capacity for critical minerals, which are concentrated in a few countries and lack resilience.
- India joined the MSP in June 2023, in a significant move aimed at securing critical minerals for its ambitious growth strategy, including electric vehicle adoption and electronics manufacturing.
- The partnership is expected to work on around 150 projects, with a focus on battery materials and minerals processing facilities. India's inclusion followed diplomatic efforts and concerns over missing out on strategic initiatives that reduce dependence on China.

Supply chains of lithium, cobalt, nickel and 17 rare earths

- The MSP grouping, industry insiders said, is focused on the supply chains of minerals such as cobalt, nickel, lithium and also the 17 "rare earth" minerals.
- While cobalt, nickel and lithium are required for batteries used in electric vehicles, rare earth minerals are critical, in trace amounts, in the semiconductors and high-end electronics manufacturing.

- China is a strong player in this space and has created processing infrastructure in rare earth minerals and has acquired mines in Africa for sourcing elements such as cobalt.
- Rare earth comprises 17 elements and are classified as light RE elements (LREE) and heavy RE elements (HREE).
- Some REs are available in India such as lanthanum, cerium, neodymium, praseodymium and samarium, while others such as dysprosium, terbium, europium that are classified as HREE are not available in Indian deposits in extractable quantities.
- Currently, there is an overwhelming dependence on countries such as China for HREE, which is one of the leading producers of RE with an estimated 70 per cent of the global production.
- India is seen as a late mover in attempts to enter the lithium value chain, coming at a time when EVs are predicted to be a sector ripe for disruption.
- The next couple of years could be an inflection point for battery technology – with several potential improvements to the Li-ion technology, and alternatives to this combination in various stages of commercialisation.

QUESTIONS

Fill in the Blank:

1. India was formally inducted into the _____ in June 2023, a US-led collaboration of 14 countries focused on catalyzing public and private investment in critical mineral supply chains globally.
2. The newly launched _____ is an offshoot of the MSP and aims to strengthen cooperation among its members to secure supply chains for critical minerals.
3. Under the MSFN, development finance institutions (DFIs) and _____ will work together to deploy capital into new and existing markets in the critical minerals sector.
4. The MSFN initiative comes at a time when there is overwhelming dependence on countries such as _____ for rare earth minerals, critical for the clean energy transition.
5. One of the key elements of India's growth strategy is powered by an ambitious shift in the mobility space through the conversion of public and private transport to _____.
6. The MSP is focused on the supply chains of minerals such as cobalt, nickel, lithium, and the _____.
7. India has deposits of certain rare earth elements like lanthanum and neodymium, but lacks extractable quantities of heavy rare earth elements such as _____ and terbium.
8. China is currently responsible for an estimated _____ percent of global production of rare earth minerals, positioning itself as a leading player in the industry.

3. The Nobel Prize in Physics 2024

- The Nobel Prize in Physics 2024 was awarded to John J. Hopfield and Geoffrey E. Hinton “for foundational discoveries and inventions that enable machine learning with artificial neural networks”
- This year's two Nobel Laureates in Physics have used tools from physics to develop methods that are the foundation of powerful machine learning.
- John Hopfield created an associative memory that can store and reconstruct images and other types of patterns in data.

- Geoffrey Hinton invented a method that can autonomously find properties in data, and so perform tasks such as identifying specific elements in pictures.
- When we talk about artificial intelligence, we often mean machine learning using artificial neural networks.
- This technology was originally inspired by the structure of the brain. In an artificial neural network, the brain's neurons are represented by nodes that have different values.
- These nodes influence each other through connections that can be likened to synapses and which can be made stronger or weaker.
- The network is trained, for example by developing stronger connections between nodes with simultaneously high values.
- This year's laureates have conducted important work with artificial neural networks from the 1980s onward.
- John Hopfield invented a network that uses a method for saving and recreating patterns.
- We can imagine the nodes as pixels.
- The Hopfield network utilises physics that describes a material's characteristics due to its atomic spin – a property that makes each atom a tiny magnet.
- The network as a whole is described in a manner equivalent to the energy in the spin system found in physics, and is trained by finding values for the connections between the nodes so that the saved images have low energy.
- When the Hopfield network is fed a distorted or incomplete image, it methodically works through the nodes and updates their values so the network's energy falls. The network thus works stepwise to find the saved image that is most like the imperfect one it was fed with.
- Geoffrey Hinton used the Hopfield network as the foundation for a new network that uses a different method: the Boltzmann machine.
- This can learn to recognise characteristic elements in a given type of data. Hinton used tools from statistical physics, the science of systems built from many similar components.
- The machine is trained by feeding it examples that are very likely to arise when the machine is run.
- The Boltzmann machine can be used to classify images or create new examples of the type of pattern on which it was trained. Hinton has built upon this work, helping initiate the current explosive development of machine learning.
- "The laureates' work has already been of the greatest benefit.

The Nobel Prize in Physics 2024

- John J. Hopfield and Geoffrey E. Hinton
"for foundational discoveries and inventions that enable machine learning with artificial neural networks"

The Nobel Prize in Physics 2023

- Pierre Agostini, Ferenc Krausz and Anne L'Huillier
"for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter"

The Nobel Prize in Physics 2022

- Alain Aspect, John Clauser and Anton Zeilinger

“for experiments with entangled photons, establishing the violation of Bell inequalities and pioneering quantum information science”

The Nobel Prize in Physics 2021

- “for groundbreaking contributions to our understanding of complex physical systems”

Syukuro Manabe and Klaus Hasselmann

- “for the physical modelling of Earth’s climate, quantifying variability and reliably predicting global warming”

Giorgio Parisi

- “for the discovery of the interplay of disorder and fluctuations in physical systems from atomic to planetary scales”.

QUESTIONS

Fill in the Blank:

1. The Nobel Prize in Physics 2024 was awarded to _____ and _____ for foundational discoveries and inventions that enable machine learning with artificial neural networks.
2. John Hopfield created an associative memory that can store and reconstruct _____ and other types of patterns in data.
3. Geoffrey Hinton invented a method that can autonomously find _____ in data, allowing it to perform tasks like identifying specific elements in pictures.
4. Artificial neural networks were originally inspired by the structure of the _____.
5. In an artificial neural network, the brain’s neurons are represented by _____ that have different values.
6. The Hopfield network utilises physics that describes a material’s characteristics due to its atomic _____.
7. The Boltzmann machine, developed by Geoffrey Hinton, can learn to recognize characteristic elements in a given type of _____.
8. The network is trained by finding values for the connections between the nodes so that the saved images have _____ energy.
9. Hinton used tools from _____ physics to develop the Boltzmann machine.
10. The Nobel Prize in Physics 2023 was awarded to Pierre Agostini, Ferenc Krausz, and Anne L’Huillier for generating attosecond pulses of light for the study of _____ dynamics in matter.

4. Harappan civilization after 100 years of exploration

- The article commemorates the 100th anniversary of the discovery of the Harappan civilisation, first announced by John Marshall in 1924 through The Illustrated London News.
- The Harappan civilisation, also called the Indus Valley Civilisation, was discovered at Harappa (now in Pakistan), and later at Mohenjo-daro. Archaeologists Daya Ram Sahni and Rakhal Das Banerji played

key roles in unearthing artefacts like seals, pottery, and copper objects, revealing uncanny similarities between the two sites.

- The Harappan civilisation flourished between 3200 BCE and 1500 BCE, covering parts of modern India, Pakistan, and Afghanistan.
- Known for its advanced town planning, metallurgy, and craftsmanship, it was one of the most technologically advanced civilisations of its time.
- It used a yet-to-be-deciphered script, standardised measurements, and sophisticated lapidary techniques.
- The discovery of the civilisation shifted historical timelines by pushing back settled life in South Asia by over 3,000 years and highlighted its maritime contacts with West Asia.
- Sites like Harappa, Mohenjo-daro, Rakhigarhi, and Dholavira were central to the civilisation, whose roots trace back to Mehrgarh, around 7000 BCE.
- Despite its many achievements, the Harappan civilisation remains an enigma, particularly due to the undeciphered Indus script and its mysterious decline.

Harappan civilisation

- The Harappan civilization is believed to be one of the oldest world civilizations together with Egypt and Mesopotamia.
- The Harappan civilization developed along the mighty river, Indus and for that reason it is also known as the Indus Valley Civilization.
- Most of the exhibits in this gallery come from important centers of the Harappan Civilization and ancient towns like Harappa, Mohenjo-Daro, Nal (now in present-day Pakistan), Dholavira, Kalibangan, Lothal and Rakhigarhi (in India).
- The Harappan civilization is identified as a Bronze-age civilization because many objects have been found that are made up of copper based alloys.
- For example, the gallery displays the famous 'dancing girl,' a bronze figurine that provides an insight into the advances made in art and metallurgy, as well as the hairstyle and ornaments prevalent during the period.
- The gallery depicts the comparative chronology of four major Bronze Age civilizations in 3rd millennium B.C.E. which existed simultaneously across the world.
- It also shows the major Harappan sites and representation of the layout of a street from Dholavira which gives the visitor a picture of the urban civilization that flourished during the time.

QUESTIONS

Fill in the Blank:

1. The Harappan civilisation was first discovered 100 years ago, with an article published on September 20, _____, in The Illustrated London News.
2. John Marshall, the Director General of the _____ Survey of India (ASI), announced the discovery of the Indus Valley civilisation.
3. The Harappan civilisation, also known as the _____ civilisation, is named after the first site discovered.
4. Daya Ram Sahni and Rakhal Das Banerji were the two key ASI archaeologists involved in excavating the sites of _____ and Mohenjo-daro.
5. The mature period of the Harappan civilisation lasted from around _____ BCE to 1900 BCE.

6. The five largest Harappan sites include Mohenjo-daro, Harappa, Ganweriwala, Rakhigarhi, and _____.
7. The Harappan civilisation was spread over 1.5 million square kilometers across modern-day India, Pakistan, and _____.
8. According to Indus civilisation scholar Asko Parpola, the Harappan civilisation's characteristic features included the fully developed Indus _____.
9. The roots of the Harappan civilisation lie in Mehrgarh, located in _____, around 7000 BCE.
10. The discovery of the Harappan civilisation filled a historical gap in South Asia, pushing back the timeline of settled life by over _____ years.

5. Cabinet approves conferring status of Classical Language to Marathi, Pali, Prakrit, Assamese and Bengali languages

- The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has approved to confer the status of Classical Language to Marathi, Pali, Prakrit, Assamese and Bengali languages.
- The Classical Languages serve as a custodian of Bharat's profound and ancient cultural heritage, embodying the essence of each community's historical and cultural milestone.

Point Wise Detail & Background

- The Government of India decided to create a new category of languages as "Classical Languages" on 12th October 2004 declaring Tamil as Classical Language and setting following as criteria for the status of Classical Language:
 - i. High Antiquity of its early texts/recorded history over a thousand years.
 - ii. A body of ancient literature/texts, which is considered a valuable heritage by generation of speakers.
 - iii. The literary tradition must be original and not borrowed from another speech community.
- A Linguistic Experts Committee (LEC) was constituted by the Ministry of Culture under Sahitya Akademi in Nov 2004 to examine the proposed languages for the status of Classical Language.
- The criteria were revised in Nov 2005 as following, and Sanskrit was declared as Classical Language:
 - i. High antiquity of its early texts/recorded history over a period of 1500-2000 years.
 - ii. A body of ancient literature/texts, which is considered a valuable heritage by generations of speakers.
 - iii. The literary tradition be original and not borrowed from another speech community.
 - iv. The classical language and literature being distinct from modern, there may also be a discontinuity between the classical language and its later forms or its offshoots.
- A proposal from the Maharashtra Government in 2013 was received in the Ministry requesting Classical Language status to Marathi, which was forwarded to the LEC.
- The LEC recommended Marathi for Classical Language.

- During the inter-ministerial consultations on the draft note for cabinet in 2017 for conferring classical status to the Marathi language, MHA advised to revise the criteria and make it stricter.
- The Ministry may conduct an exercise to find out how many other languages are likely to become eligible.
- In the meantime, proposal from Bihar, Assam, West Bengal was also received for conferring status of Classical Language to Pali, Prakrit, Assamese and Bengali.
- Accordingly, Linguistics Experts Committee (under Sahitya Akademi) in a meeting on 25.07.2024, unanimously revised the criteria as below.
- **Sahitya Akademi has been appointed as nodal agency for the LEC.**
 - i. High antiquity of (its) is early texts/recorded history over a period of 1500- 2000 years.
 - ii. A body of ancient literature/texts, which is considered a heritage by generations of speakers.
 - iii. Knowledge texts, especially prose texts in addition to poetry, epigraphical and inscriptional evidence.
 - iv. The Classical Languages and literature could be distinct from its current form or could be discontinuous with later forms of its offshoots.
- The committee also recommended following languages to be fulfilling revised criteria to be considered as a Classical Language.
 - i. Marathi
 - ii. Pali
 - iii. Prakrit
 - iv. Assamese
 - v. Bengali
- **Implementation strategy and targets:**
 - i. The Ministry of Education has taken various steps to promote Classical Languages. Three Central Universities were established in 2020 through an Act of Parliament for promotion of Sanskrit language.
 - ii. The Central Institute of Classical Tamil was set up to facilitate the translation of ancient Tamil texts, promote research and offer courses for University students and language scholars of Tamil.
 - iii. To further enhance the study and preservation of Classical Languages, the Centres for Excellence for studies in Classical Kannada, Telugu, Malayalam, and Odia were established under the auspices of the Central Institute of Indian Languages in Mysuru.
 - iv. In addition to these initiatives, several national and international awards have been instituted to recognize and encourage achievements in the field of Classical Languages.
 - v. Benefits extended to Classical Languages by the Ministry of Education include National Awards for Classical Languages, Chairs in Universities, and Centers for promotion of Classical Languages.

Major impact, including employment generation

- The inclusion of languages as Classical Language will create significant employment opportunities, particularly in academic and research fields.
- Additionally, the preservation, documentation, and digitization of ancient texts of these languages will generate jobs in archiving, translation, publishing, and digital media.

States/districts covered

- The primary states involved are Maharashtra (Marathi), Bihar, Uttar Pradesh and Madhya Pradesh (Pali and Prakrit), West Bengal (Bengali), and Assam (Assamese).
- The broader cultural and academic impact will extend nationally and internationally.

QUESTIONS

Fill in the Blank:

1. The Union Cabinet, chaired by Prime Minister Shri Narendra Modi, has approved conferring the status of Classical Language to Marathi, Pali, Prakrit, Assamese, and _____.
2. The status of Classical Language serves as a custodian of Bharat's _____ and ancient cultural heritage.
3. The Government of India created the new category of Classical Languages on 12th October _____, first declaring Tamil as a Classical Language.
4. The Linguistic Experts Committee (LEC), constituted by the Ministry of Culture in November _____, was responsible for examining languages proposed for Classical Language status.
5. According to the revised criteria in November 2005, for a language to be recognized as Classical, its early texts or recorded history must span over a period of _____ years.
6. In 2024, the Linguistics Experts Committee unanimously recommended conferring Classical Language status to Marathi, Pali, Prakrit, _____, and _____.
7. The _____ has been appointed as the nodal agency for the Linguistics Experts Committee under Sahitya Akademi.
8. The Ministry of Education established three Central Universities in 2020 to promote the _____ language.
9. To promote Classical Tamil, the Central Institute of Classical Tamil was set up to facilitate translation, research, and courses for university students and _____ scholars.
10. The inclusion of languages as Classical Languages will generate significant employment opportunities in fields such as academic research, translation, _____, and digital media.

6. Eight products used by Assam tribe granted GI tag

- The Geographical Indications Registry in Chennai has granted the GI tag to eight products from the Assam region, including traditional food items and several unique varieties of rice beer.
- The application for Geographical Indication tags for three variants of rice beer was filed by the Bodo Traditional Brewers Association. The first variant, 'Bodo Jou Gwran', has the highest percentage of alcohol (about 16.11%) when compared with other varieties of rice beer made by the Bodo community.
- The second variant, 'Maibra Jou Bidwi', known locally as 'Maibra Jwu Bidwi' or 'Maibra Zwu Bidwi', is revered and served as a welcome drink by most Bodo tribes.
- It's prepared by fermenting half-cooked rice (mairong) with less water, and adding a little 'amao' (a potential source of yeast) to it.

- The third variant, called ‘Bodo Jou Gishi’, is also a traditionally fermented rice-based alcoholic beverage.
- The GI filing states Bodoland has had a tradition of consuming rice beer since times immemorial.
- The Bodo people believe the drink originated from Lord Shiva, and it’s taken as a medicine.
- The Association of Traditional Food Products applied for four GI tags and obtained them successfully.
- A GI tag has been secured by ‘Bodo Napham’, an important and favourite dish of fermented fish prepared anaerobically in a tightly sealed container in a process that requires about two-three months.
- The Bodo people preserve fish using different techniques, including smoking, drying, salting, fermentation, and marination.
- Due to heavy rainfall and the limited availability of fish throughout the year, fermentation is favoured as a method of preserving food.
- A GI tag has also been secured by ‘Bodo Ondla’, a rice powder curry flavoured with garlic, ginger, salt, and alkali.
- The ‘Bodo Gwkha’ has also received the GI tag.
- Locally also known as ‘Gwka Gwkhi’, it’s prepared during the Bwisagu festival.
- The fourth specialty given the GI tag is ‘Bodo Narzi’, a semi-fermented food prepared with jute leaves (*Corchorus capsularis*), a rich source of Omega 3 fatty acids, vitamins and essential minerals, including calcium and magnesium.
- The ‘Bodo Aronai’, a small, beautiful cloth (1.5-2.5 meters long and 0.5 meter wide), also has the GI tag now following the application by the Association of Traditional Bodo Weavers.
- Unique Bodo traditions are reflected in their dance, music, festivals, and clothing, the last of which is deeply inspired by nature, and feature designs from the community’s surroundings to include trees, flowers, mountains, birds, and other elements of the natural world.

Geographical indication

- A geographical indication (GI) is a name or sign used on products to indicate a specific geographical origin, such as a town, region, or country.
- India, as a member of the World Trade Organization (WTO), enacted the Geographical Indications of Goods (Registration and Protection) Act, 1999, which took effect on 15 September 2003.
- Under Article 22(1) of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), GIs are defined as indications that identify a good as originating from a territory, region, or locality where its quality, reputation, or other characteristics are tied to its geographic origin.
- The GI tag ensures that only registered authorized users or those residing within the geographic territory can use the product’s name.
- Darjeeling tea was the first product in India to receive a GI recognition in 2004–05.

QUESTIONS

Fill in the Blank:

1. The Geographical Indications Registry in Chennai granted the GI tag to eight products from the _____ region, including traditional food items and rice beer variants.
2. The application for GI tags for three variants of rice beer was filed by the _____ Traditional Brewers Association.
3. ‘Bodo Jou Gwran’, a variant of rice beer, has the highest alcohol content at _____% compared to other Bodo community rice beers.

4. The rice beer known as _____ is served as a welcome drink by most Bodo tribes.
5. The fermented rice-based alcoholic beverage called _____ is another traditional drink made by the Bodo community.
6. The Bodo people believe that rice beer originated from _____ and consider it as a medicine.
7. 'Bodo Napham', a fermented fish dish prepared in an anaerobic process, requires about _____ months for fermentation.
8. The rice powder curry called _____ is flavored with garlic, ginger, salt, and alkali and has received a GI tag.
9. The semi-fermented food made with jute leaves, rich in Omega 3 fatty acids, is known as _____.
10. The small, beautifully woven cloth called _____, now with a GI tag, is about 1.5–2.5 meters long and 0.5 meter wide.

7. The Nobel Prize in Physiology or Medicine 2024

- The Nobel Prize in Physiology or Medicine 2024 was awarded jointly to Victor Ambros and Gary Ruvkun “for the discovery of microRNA and its role in post-transcriptional gene regulation”.
- The Nobel Assembly at Karolinska Institutet has decided to award the 2024 Nobel Prize in Physiology or Medicine jointly to Victor Ambros and Gary Ruvkun for the discovery of microRNA and its role in post-transcriptional gene regulation.
- This year’s Nobel Prize honors two scientists for their discovery of a fundamental principle governing how gene activity is regulated.
- The information stored within our chromosomes can be likened to an instruction manual for all cells in our body.
- Every cell contains the same chromosomes, so every cell contains exactly the same set of genes and exactly the same set of instructions.
- Yet, different cell types, such as muscle and nerve cells, have very distinct characteristics.
- Victor Ambros and Gary Ruvkun were interested in how different cell types develop.
- They discovered microRNA, a new class of tiny RNA molecules that play a crucial role in gene regulation.
- Their groundbreaking discovery revealed a completely new principle of gene regulation that turned out to be essential for multicellular organisms, including humans.
- It is now known that the human genome codes for over one thousand microRNAs.
- Their surprising discovery revealed an entirely new dimension to gene regulation. MicroRNAs are proving to be fundamentally important for how organisms develop and function.

Essential regulation

- This year’s Nobel Prize focuses on the discovery of a vital regulatory mechanism used in cells to control gene activity.

- Genetic information flows from DNA to messenger RNA (mRNA), via a process called transcription, and then on to the cellular machinery for protein production.
- There, mRNAs are translated so that proteins are made according to the genetic instructions stored in DNA.
- Since the mid-20th century, several of the most fundamental scientific discoveries have explained how these processes work.
- Our organs and tissues consist of many different cell types, all with identical genetic information stored in their DNA.
- However, these different cells express unique sets of proteins.
- This enables, for example, muscle cells, intestinal cells, and different types of nerve cells to perform their specialized functions.
- In addition, gene activity must be continually fine-tuned to adapt cellular functions to changing conditions in our bodies and environment.
- If gene regulation goes awry, it can lead to serious diseases such as cancer, diabetes, or autoimmunity.
- Therefore, understanding the regulation of gene activity has been an important goal for many decades.
- In the 1960s, it was shown that specialized proteins, known as transcription factors, can bind to specific regions in DNA and control the flow of genetic information by determining which mRNAs are produced.
- Since then, thousands of transcription factors have been identified, and for a long time it was believed that the main principles of gene regulation had been solved.
- However, in 1993, this year's Nobel laureates published unexpected findings describing a new level of gene regulation, which turned out to be highly significant and conserved throughout evolution.

Research on a small worm leads to a big breakthrough

- In the late 1980s, Victor Ambros and Gary Ruvkun, while working in Robert Horvitz's lab, studied the roundworm *C. elegans* to understand genetic regulation in tissue development.
- They focused on two mutant genes, *lin-4* and *lin-14*, involved in the timing of genetic program activation. Ambros showed that *lin-4* negatively regulated *lin-14*, but the exact mechanism was unclear.
- In his own lab, Ambros discovered that *lin-4* produced a small RNA molecule that inhibited *lin-14* protein production by binding to its mRNA. Concurrently, Ruvkun found that *lin-4* blocked *lin-14* protein synthesis at a later stage of gene expression.
- Their collaboration led to the discovery of microRNAs, a new mechanism of gene regulation.
- Initially, this mechanism was thought to be unique to *C. elegans*, but in 2000, Ruvkun's group found another conserved microRNA, *let-7*, present across many species.
- This discovery sparked interest in microRNAs, which are now known to regulate many genes and are crucial for gene expression in multicellular organisms.
- Further research revealed that microRNAs inhibit protein synthesis or lead to mRNA degradation, fine-tuning gene networks.
- This cellular mechanism also protects plants from viral infections.
- The RNA interference process, described by Andrew Fire and Craig Mello, uses similar pathways to inactivate specific mRNA.

Tiny RNAs with profound physiological importance

- Gene regulation by microRNA, discovered by Ambros and Ruvkun, has been functioning for hundreds of millions of years and is vital for the evolution of complex organisms.
- MicroRNAs are essential for normal cell and tissue development, and abnormal regulation can lead to cancer and genetic disorders, such as congenital hearing loss and skeletal issues.
- Mutations in genes responsible for microRNA production can cause severe conditions like DICER1 syndrome, linked to cancer in multiple organs. Ambros and Ruvkun's discovery in *C. elegans* highlighted a crucial, unexpected aspect of gene regulation essential to complex life forms.

QUESTIONS

Fill in the Blank:

1. The Nobel Prize in Physiology or Medicine 2024 was awarded jointly to _____ and _____ for their discovery of microRNA and its role in post-transcriptional gene regulation.
2. The discovery of microRNA revealed a new level of gene regulation that is essential for _____ organisms, including humans.
3. In the process of gene expression, genetic information flows from DNA to messenger RNA (mRNA) via a process called _____.
4. The roundworm _____ *elegans* was used by Victor Ambros and Gary Ruvkun to study the timing of activation of different genetic programs during development.
5. Ambros and Ruvkun discovered that the *lin-4* gene produced an unusually short RNA molecule that _____ a code for protein production.
6. The regulation of the *lin-14* gene was shown to occur at a later stage in the process of gene expression through the shutdown of _____ production.
7. The short *lin-4* sequence matched complementary sequences in the critical segment of the _____ mRNA, leading to the discovery of microRNA.
8. More than _____ genes for different microRNAs have been identified in humans, indicating the universal nature of microRNA regulation among multicellular organisms.
9. Mutations in genes coding for microRNAs can contribute to conditions such as congenital hearing loss, _____ disorders, and cancer.
10. Ambros and Ruvkun's discovery highlighted the profound physiological importance of tiny RNAs, demonstrating that gene regulation by microRNA has been at work for _____ of millions of years.

8. Cabinet approves development of National Maritime Heritage Complex at Lothal, Gujarat

- The Union Cabinet approved the development of the National Maritime Heritage Complex (NMHC) at Lothal in Gujarat.
- The Cabinet also accorded in-principle approval for Phases 1B and 2 of the project, as per the master plan, by raising funds through voluntary resources or contributions.

- A separate society will be set up for development of future phases, to be administered by a Governing Council headed by the Minister of Ports, Shipping & Waterways, under Societies Registration Act, 1860.
- The Council will deal with the implementation, development, management, and operation of the NMHC, a statement from the Press Information Bureau said.
- “The Phase 1A of the project is under implementation with more than 60% physical progress and is planned to be completed by 2025.”
- Phase 1A will have the NMHC museum with six galleries, including an Indian Navy and Coast Guard gallery envisaged to be one of the largest in the country with external naval artefacts such as INS Nishank, Sea Harrier war aircraft, and UH3 helicopter, and a replica model of Lothal township surrounded by open aquatic gallery, and jetty walkway.
- Phases 1A and 1B of the project are to be developed in Engineering, Procurement, and Construction (EPC) mode and Phase 2 will be developed through land-subleasing or Public-Private Partnership (PPP) to establish NMHC as a world-class heritage museum.
- “Construction of Light House Museum under Phase 1B will be funded by Directorate General of Lighthouses and Lightships,” it added.
- Phase 1B will see NMHC museum getting eight more galleries, and the Light House Museum which is planned to be world’s tallest, the Bagicha complex with car parking facility for about 1,500 cars, a food hall and medical centre.
- The NMHC project is expected to generate around 22,000 jobs, including 15,000 direct and 7,000 indirect jobs.
- The master plan of the NMHC has been prepared by renowned architecture firm Architect Hafeez Contractor and the construction of Phase 1A has been entrusted to Tata Projects Ltd.
- Phase 2 will see the setting of coastal States’ pavilions to be developed by the respective coastal States and Union Territories, hospitality zone with maritime theme eco-resort and ‘museuotels’, re-creation of real-time Lothal city, maritime institute and hostel, and four theme-based parks - maritime and naval, climate change, monuments and adventure and amusement, the statement added.

Lothal, Gujarat

- Since the discovery of Harappan sites at Lothal in the 1950s, archaeologists have debated whether a dockyard existed there during the Indus Valley Civilisation.
- A new study by the Indian Institute of Technology-Gandhinagar (IITGn) may resolve this debate, as it has found evidence supporting the dockyard’s existence.
- Lothal is the only known port-town of the Indus Valley Civilization. It’s located between the Sabarmati river and its tributary Bhogavo.
- The study reveals that the Sabarmati River once flowed by Lothal (currently 20 km away) during the Harappan period, and that a trade route connected Ahmedabad, Lothal, Nal Sarovar, and Dholavira.
- Satellite images show old river channels, confirming Lothal’s strategic position along a significant river route.
- The study, published in the Journal of Archaeological Science, used satellite imagery, historical maps, and digital elevation models to trace ancient watercourses and geomorphic changes.
- This research strengthens the theory of Lothal’s importance as a trading hub, with goods possibly traveling to Mesopotamia through the Gulf of Khambhat.
- Those who believed that a dockyard existed at Lothal based their hypothesis on the discovery of a 222 x 37 metres basin at the location. Others, however, argued that it was just an “irrigation tank”.

Major impact, including employment generation potential:

- Around 22,000 jobs are expected to be created in development of NMHC project, with 15,000 direct employment and 7,000 indirect employment.

No. of beneficiaries

- The implementation of NMHC will boost growth and immensely help the local communities, tourists and visitors, researchers and scholars, government bodies, educational institutions, cultural organisations, environment and conservation groups, businesses.

QUESTIONS

Fill in the Blank:

1. The Union Cabinet approved the development of the National Maritime Heritage Complex (NMHC) at _____ in Gujarat.
2. The Phase 1A of the NMHC project is expected to be completed by the year _____.
3. Phase 1A will include the NMHC museum with _____ galleries, including an Indian Navy and Coast Guard gallery.
4. A separate society will be set up for the development of future phases of the NMHC, to be administered by a Governing Council headed by the Minister of _____.
5. Phase 2 of the NMHC project will be developed through land-subleasing or _____ to establish the complex as a world-class heritage museum.
6. The construction of the Light House Museum under Phase 1B will be funded by the Directorate General of _____ and Lightships.
7. Phase 1B of the project will include eight additional galleries and the world's tallest _____ Museum.
8. The NMHC project is expected to generate approximately _____ jobs, including 15,000 direct jobs and 7,000 indirect jobs.
9. Lothal's significance as a trading hub during the Indus Valley Civilization was supported by the discovery of a _____ x 37 metres basin at the location.
10. A recent study by the Indian Institute of Technology-Gandhinagar (IITGn) confirmed that the _____ River once flowed near Lothal during the Harappan period.

9. Centre, Tripura sign peace pact with Tripura insurgent groups

- Union Home Minister Amit Shah said that more than 300 armed cadres of two insurgent groups in Tripura have given up violence to join the mainstream and will “contribute not only in building a developed Tripura but also in building a developed India”.
- He said that the Armed Forces Special Powers Act (AFSPA) was removed from Tripura in 2015 itself and it has also been withdrawn from many parts of the Northeast.
- A Memorandum of Settlement was signed between the Government of India, Government of Tripura and the National Liberation Front of Tripura (NLFT) and the All Tripura Tiger Force (ATTF) in the presence of Mr. Shah.

- “Under the agreement signed with NLFT and ATTF, more than 328 armed cadres will give up violence and join the mainstream of society and contribute not only in building a developed Tripura but also in building a developed India.
- Government is making wholehearted efforts with due consideration to all sensitivities in implementation of all the agreements to ensure development of the area and eliminate the reasons responsible for people to take up arms,” Mr. Shah said.
- He added that the Centre has approved a special package of ₹250 crore for the overall development of the tribal population of Tripura.
- The NLFT and the ATTF reaffirmed their commitment towards the development of Tripura by ending 35-year-long conflict in the State, a statement by the Ministry said.
- Per the agreement, the NLFT and the ATTF have agreed to abjure the path of violence, lay down arms and ammunition and disband their armed organisations.
- The armed cadre of NLFT and ATTF have also agreed to participate in peaceful democratic process established by the law and maintain the integrity of the country.
- According to Tripura Police’s website, the NLFT, a banned organisation has been active since 1989.
- It says that the “tribal extremist outfit”, was formed under the leadership of Biswamohan Debbarma with the objective to liberate Tripura from the Union of India, to deport all foreigners who entered into Tripura after 1956 and to restore alienated tribal’s lands.
- The ATTF was formed in 1990 with similar objectives and demanded removal of names of illegal migrants from electoral roll who entered Tripura after 1956 and the implementation of the ‘Tripura Merger Agreement’ which came into force on October 15, 1949.
- While the NLFT is accused of killing more than 600 people, according to police records, the ATTF is responsible for the killing of more than 300 people and abduction of hundreds of people. They operate their camps from Bangladesh.
- Mr. Shah said that after assuming the prime ministership, Narendra Modi has put forth the vision of a capable and developed Northeast through peace and dialogue.
- He said that Mr. Modi has not only bridged the distances between New Delhi and the Northeast through road, rail and flight connectivity, but also bridged the differences in their hearts.
- He underlined that the peace pact is the 12th agreement for the Northeast and the third agreement related to Tripura in the past ten years.
- “Through these agreements, about 10,000 insurgents have joined the mainstream by giving up arms.
- The 12 agreements have been majorly instrumental in preventing loss of thousands of innocent lives,” he said.
- Manik Saha, Chief Minister of Tripura, Biplab Deb, member of Parliament from the State and Pradyot Bikram Manikya Debbarma, the founder of the Tipraha Indigenous Progressive Regional Alliance (TIPRA) were also present at the signing of the peace pact.

Major Initiatives and Peace Process in North Eastern Region (NER)

- **Improved security situation in NER:** There has been significant improvement in security situation in the North Eastern (NE) States since 2014.
Compared to 2014, there has been 71% reduction in insurgency incidents, 60% in Security Forces casualties and 82% in Civilian deaths in 2023.
- **Reduction of ‘disturbed areas’ under AFSPA:** Due to significant improvement in the security situation in North Eastern States, The Armed Forces (Special Powers) Act, 1958 (AFSPA) has been

removed completely from all districts except 4 districts of Assam, 19 Police Station areas in 7 districts of Manipur and 18 Police Station areas in 8 districts of Nagaland. In Arunachal Pradesh, AFSPA has been reduced to 3 Police Station areas of Namsai district besides Tirap, Changlang and Longding districts.

Earlier, AFSPA had been removed completely from Tripura and Meghalaya in 2015 and 2018 respectively.

- **Peace accords/agreements in NER:**

- i. **ANVC Peace Accord (2014):** A Memorandum of Settlement (MoS) was signed with Achik National Volunteer Council (ANVC) and ANVC/B on 24.09.2014 following which 751 cadres/workers of ANVC groups surrendered their arms and disbanded on 15.12.2014.
 - ii. **NLFT(SD) Peace Agreement (2019):** A Memorandum of Settlement (MoS) was signed with National Liberation Front of Tripura (NLFT/SD) on 10.08.2019 following which 88 cadres of NLFT(SD) surrendered with 44 arms.
 - iii. **Bru Agreement (2020):** An Agreement was signed with representatives of Bru migrants on 16.01.2020 for permanent settlement of Bru(Reang) families in Tripura with a financial assistance/package of around Rs. 661.00 crore.
 - iv. **Bodo Peace Accord (2020):** A Memorandum of Settlement(MoS) was signed on 27.1.2020 with Bodo Groups of Assam to solve the long pending Bodo issue following which 1615 cadres of NDFB groups surrendered on 30.1.2020 and disbanded on 9th-10th March, 2020.
 - v. **Karbi Peace Accord (2021):** A Memorandum of Settlement (MoS) was signed on 04.09.2021 with representatives of Karbi Groups to end the decades old crisis in Karbi Anglong area of Assam, following which over 1000 armed cadres have abjured violence and joined the mainstream of society.
 - vi. **Adivasi Peace Accord (2022):** A Memorandum of Settlement (MoS) was signed on 15.09.2022 with representatives of 8 Adivasi Groups to end the decades old crisis of Adivasis and tea garden workers in Assam, following which 1182 cadres of Adivasi groups have joined the mainstream by laying down arms.
 - vii. **DNLA Peace Agreement (2023):** A Memorandum of Settlement (MoS) was signed on 27.04.2023 with Dimasa National Liberation Army/Dimasa Peoples' Supreme Council (DNLA/DPSC) of Assam to end the insurgency in Dima Hasao District of Assam, following which 181 cadres of DNLA have joined the mainstream by laying down their arms on 28.10.2023.
 - viii. **UNLF Peace Agreement (2023):** A Peace Agreement on Ground Rules with United National Liberation Front (UNLF), a valleybased Manipuri armed group, was signed on 29.11.2023. As per agreement, UNLF has agreed to return to mainstream by abjuring violence and agreeing to honour the Constitution of India and laws of the land.
 - ix. **ULFA Peace Agreement (2023):** A Memorandum of Settlement (MoS) has been signed on 29.12.2023 with United Liberation Front of Assam (ULFA). As per agreement, ULFA has agreed to abjure the path of violence, surrender all arms/ammunition, disband their armed organization and join the peaceful democratic process as established by the law and uphold the integrity of the country.
- **Ceasefire/Suspension of Operation/other agreements in NER:**
 - i. A Framework Agreement with NSCN (IM) was signed on 03.08.2015.
 - ii. Ceasefire agreements with NSCN(NK) and NSCN(R) of Nagaland have been extended for a further period of one-year w.e.f. 28.04.2023 i.e. upto 27.04.2024. Ceasefire agreement with NSCN (K-Khango) of Nagaland has been extended for one-year w.e.f. 18.04.2023 i.e. upto 17.04.2024.

iii. A Ceasefire Agreement with National Socialist Council of Nagaland (K) Niki group was signed on 08.09.2021 for a period of one year and more than 200 cadres of this group along with 83 weapons joined the peace process. Ceasefire agreement with NSCN (K) Niki group has been extended for one more year w.e.f. 08.09.2023 to 07.09.2024.

iv. Suspension of Operation (SoO) agreements with United Peoples' Front [UPF] and Kuki National Organization [KNO] of Manipur have been extended for a further period of one-year w.e.f. 01.03.2023 to 29.02.2024.

v. A Cessation of Operation (CoO) Agreement with Zeliangrong United Front (ZUF) group of Manipur was signed on 27.12.2022 and ZUF agreed to abjure violence and join the peaceful democratic process as established by law of the land.

- **Inter-state boundary agreements: Assam-Meghalaya:** A Memorandum of Understanding (MoU) was signed in New Delhi on 29.03.2022 by the Chief Minister of Assam and the Chief Minister of Meghalaya to resolve the decade's long problem of inter-state boundary between the States of Assam and Meghalaya in respect of six areas of difference out of total twelve areas of difference.

Both States have constituted Regional Committees to finalize settlement of remaining 6 areas of difference.

- **Assam-Arunachal Pradesh:** A Memorandum of Understanding (MoU) was signed at New Delhi on 20.04.2023 by the Chief Minister of Assam and the Chief Minister of Arunachal Pradesh to settle the long-pending inter-state border dispute between Assam and Arunachal Pradesh in respect of 123 villages.

Both States have agreed that this agreement will be final with regard to 123 disputed villages and neither of the States will make any new claim related to any area or village in future.

QUESTIONS

Fill in the Blank:

1. More than _____ armed cadres of two insurgent groups in Tripura have given up violence to join the mainstream.
2. The Armed Forces Special Powers Act (AFSPA) was removed from Tripura in _____.
3. A Memorandum of Settlement was signed between the Government of India, Government of Tripura, and the _____.
4. The NLFT and ATTF have agreed to abjure the path of violence, lay down arms, and disband their armed _____.
5. The Centre has approved a special package of ₹_____ crore for the overall development of the tribal population of Tripura.
6. The NLFT was formed under the leadership of _____ with the objective to liberate Tripura from the Union of India.
7. The ATTF was formed in _____ with similar objectives to those of the NLFT.
8. According to police records, the NLFT is accused of killing more than _____ people.
9. The peace pact signed is the _____ agreement for the Northeast and the third related to Tripura in the past ten years.
10. The Framework Agreement with NSCN (IM) was signed on _____.

10. India-China border dispute

- The clamour of considerable land being lost to China in eastern Ladakh is political hyperbole — an agenda-driven narrative to bolster electoral prospects on national security grounds.
- The issue was raised in August last year by Congress leader Rahul Gandhi but no studies or expertise are available to verify such claims.
- Ladakh certainly has been and will continue to remain a serious flashpoint. There are no borders here except a 1,597 km-long Line of Actual Control (LAC), a notional demarcation separating India and China since 1962.
- Even the LAC is not well defined. Both countries have differing perceptions.
- The patrolling is done till 65 earmarked Patrol Points (PPs) stretching from Karakoram to Chumur.
- The recent dispute points occurred at PP9, 10, 11, 12, 12A and 13 in Depsang, PP14 in Galwan, PP15 and PP16 in Hot Springs/Chang Chenmo, and PP17 and 17A in Gogra.

Chushul-Pangong Sector

- In the Chushul-Pangong sector, the situation in the Sirijap range on the north bank of Pangong, where Finger series 1 to 8 jut out, is stable.
- In May 2020, the People's Liberation Army (PLA) entered the Finger 3-4 area to prevent Indian troops from patrolling.
- After the disengagement agreement in February 2021, the status quo prior to May 2020 is being restored.

Kailash Range

- In the Kailash range, the PLA's provocative move in early September 2020 to capture Nyanlung Yokma/Gongma or the Kailash Heights, at an altitude of 15,000 feet located between Pangong Tso and Spanggur Gap, was foiled by the Indian Army in a major pre-emptive strategic manoeuvring.
- Peace was restored after both sides agreed to disengage from north and south Pangong Tso in February 2021.

Chang Chenmo Valley

- PLA's intrusions in Galwan Valley, Changlung Nalla, Hot Springs and Kongrung Nalla of Chang Chenmo Valley, where it had created area denial for Indian troops, are also relatively peaceful now. Both sides agreed to disengage in June 2020.
- The situation in the Gogra-Hot Springs area remained volatile until September 8, 2022, when both sides agreed to disengage. There are no forward deployments in this area though a buffer zone is being created with new patrolling norms.
- All temporary structures have been dismantled. However, the situation in the PP15 area remains tense as China is still adamant about restoring the pre-April 2020 position.

Depsang and Demchok

- Currently, only Depsang and Demchok remain points of friction, predating the 2020 stand-off. Since 2009, the PLA has frequently made offensive moves from Track Junction Nallah to the south at Burtse/Depsang Plains.
- In 2011, PLA built a 30 km road from Raki Nallah to cut into the Depsang Plains.

- In 2013, Burtse became a flashpoint when the PLA set up remote camps 18-19 km inside Indian Territory, preventing Indian patrolling from PP10, PP11, PP12 and PP13.
- The Shyam Saran Report of August 2013 made a chilling revelation of India having lost 640 sq km area due to “area denial” by the PLA.
- Since 2019, the PLA has blocked the Bottleneck area, restricting India’s patrolling limits to PP10 and PP11.
- The Chinese road construction along Jeevan Nallah towards the south, adjacent to our Murgo post, could potentially cut off the Indian supply line to the DBO at Murgo, like in the case of Galwan.
- The Chinese are in control of 600-800 sq km of the southern half of Depsang Plains.
- The situation here remains complicated and deadlocked. Therefore, complete disengagement has been elusive.
- In Demchok, the PLA has been violating LAC at Charding-Nilung Nallah (CNN) junction since 2018, obstructing Indian patrolling to that point. The dispute is stalemated.
- As for Ladakhi Changpas losing grazing ground, their movements were restricted along the LAC because of heavy militarisation by the Chinese as well as Indian armies.
- India has shored up its defences, inducting several reinforcements, including artillery brigades, after the 2013 Depsang episode.

Infrastructure upgrades

- One cannot overlook the fact that infrastructure in eastern Ladakh has been ramped up in recent years.
- Earlier, the Chinese bullied and coerced India because of the latter’s lax attitude and grabbed a chunk of Ladakh territory between the 1960s and 1990s.
- The situation has changed now. India had stepped up construction activities under the UPA government but the projects were mired in corruption and scams.
- The government has fast-tracked the connectivity projects, including the 260 km long Shyok-DBO road that was completed on a war footing.
- DBO can be reached from Dorbuk in eight hours now, which gives Indian troops a major advantage in the difficult terrain.
- India’s growing dominance in far-flung areas has been one of the key factors that forced the PLA to react differently, accusing India of transgressions on the LAC and provoking the Galwan stand-off in 2020.
- Our aviation infrastructure has also been upgraded after reactivating all the abandoned Advanced Landing Grounds (ALGs) at DBO, Fukche, and Nyoma.
- The Nyoma ALG is being upgraded into a full-fledged airfield capable of operating cargo as well as fighter jets.
- This will boost the security of eastern Ladakh apart from the economic development of the Changthang region.

Fitting response to Chinese aggression

- The LAC situation remains in a stalemate, although the 21st round of Corps Commander-level meetings was held in February to reduce tension in the region.
- The accusation of losing massive areas, therefore, is a gross exaggeration. Technically, there has been no intrusion on our side of the LAC.

- The discrepancies have occurred only in the grey-zone patrolling areas due to differences in LAC perception.
- Both sides should grasp fresh opportunities to revive the stalled process of clarifying the LAC after the new government is formed in New Delhi.

QUESTIONS

Fill in the Blank:

1. The clamour of considerable land being lost to China in eastern Ladakh is described as political _____ — an agenda-driven narrative to bolster electoral prospects on national security grounds.
2. The issue of land loss was first raised by Congress leader _____ in August last year.
3. There are no borders in the region except the _____, a notional demarcation separating India and China since 1962.
4. The patrolling in the region is done till _____ earmarked Patrol Points (PPs) stretching from Karakoram to Chumur.
5. In the Chushul-Pangong sector, the situation in the _____ range on the north bank of Pangong is reported to be stable.
6. The PLA's provocative move to capture _____ or the Kailash Heights was foiled by the Indian Army in a major pre-emptive strategic manoeuvring.
7. Currently, only _____ and Demchok remain points of friction, predating the 2020 stand-off.
8. The Shyam Saran Report of August 2013 revealed that India had lost _____ sq km area due to "area denial" by the PLA.
9. India's growing dominance in far-flung areas has forced the PLA to react differently, accusing India of _____ on the LAC.
10. The 21st round of Corps Commander-level meetings was held in _____ to reduce tension in the region.