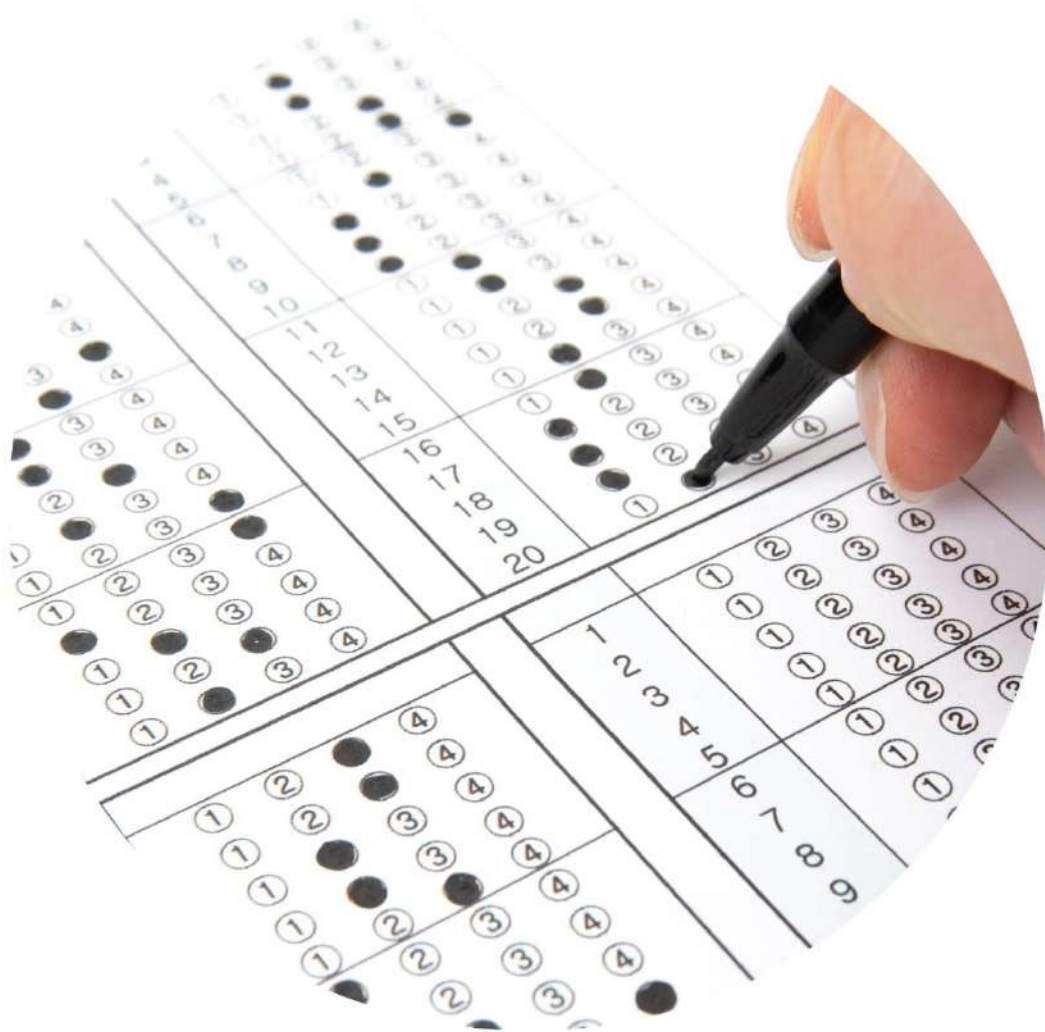




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MONTHLY PRESTORMING

APRIL
2024

A compilation of Prelims MCQs with solutions
from Current Affairs of the month



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MONTHLY PRESTORMING

APRIL 2024

01-04-2024

1) Consider the following statements with respect to Global Geoparks Network (GGN):

1. They are areas with internationally important rocks and landscapes.
2. The Global Geoparks Network was founded under the umbrella of UNESCO.
3. India does not have a single geopark registered and acknowledged under UNESCO Global Geopark list.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements with respect to the Katchatheevu Island:

1. Katchatheevu is a speck in the Palk Strait, between India and Sri Lanka.
2. Katchatheevu was ceded to Sri Lanka by the British Indian Government.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements:

1. Empathetic Voice Interface (EVI) is an application based on empathic large language model (eLLM).
2. DALL-E is a software that lets users generate art with the help of artificial intelligence.
3. Sora is OpenAI's text-to-video generative AI model.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

4) Consider the following statements with respect to the Konda Reddi Tribes:

1. They inhabit either side of the Godavari River in Andhra Pradesh.
2. Konda Reddies have their own institution of social control called Kula Panchayat.
3. Medaram Jatara is a festival celebrated by the Konda Reddi Tribes.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following statements:

1. The Central Water Commission (CWC) was established before India's Independence.
2. The Central Groundwater Board (CGWB) has its headquarters at Meerut, Uttar Pradesh.
3. The Central Groundwater Authority (CGWA) was constituted under the Environment (Protection) Act, 1986.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

Answers

1. c

Global Geoparks Network (GGN)

- In 2004, 17 European and 8 Chinese geoparks came together at UNESCO headquarters in Paris to form the Global Geoparks Network (GGN).
- The Global Geoparks Network was founded under the umbrella of UNESCO.
- **Headquarters** – Paris
- During the 38th session of UNESCO's General Conference in 2015, the 195 Member States of UNESCO ratified the creation of a new label, the UNESCO Global Geoparks.
- The GGN is a dynamic network where members work together to share examples of good practice and join together in common projects.
- The Geopark tag is akin to that of a 'World Heritage Site' for historical monuments that can bring famed geological features to the global stage.
- UNESCO Global Geoparks are areas with internationally important rocks and landscapes, all of which are managed responsibly for conservation, education and sustainable development.
- **India** – India is a signatory to the establishment of UNESCO Global Geoparks.
- However, it does not have any legislation and policy for conservation of geoheritages.
- Geological Survey of India (GSI) identifies sites as National Geological Monuments.
 - Geological Survey of India is an attached office to the Ministry of Mines with its headquarters at Kolkata.
- India is one of those countries which do not have a single geopark registered and acknowledged under UNESCO Global Geopark list.
- A stone deity ([Kakad Bhairav or Bhilat Baba](#)) worshipped by the Bhils in Madhya Pradesh's Bagh was proved to be a fossilized dinosaur egg. With this discovery, India hopes to get its first UNESCO Global Geopark Tag.

2. a

Katchatheevu Island

Prime Minister blamed the congress for giving away the island of Katchatheevu.

- **Location** – Being the product of a 14-century volcanic eruption, Katchatheevu is relatively new in the geological timescale.
- Katchatheevu is a 285-acre uninhabited speck (a very small spot) in the Palk Strait, between India and Sri Lanka.
- It is no more than 1.6 km in length and slightly over 300 m wide at its broadest point.
- It lies northeast of Rameswaram, about 33 km from the Indian coast.
- It is about 62 km southwest of Jaffna, at the northern tip of Sri Lanka, and 24 km away from the inhabited Delft Island, belonging to Sri Lanka.
- **Church** – The only structure on the island is an early 20th-century Catholic shrine, St Anthony's church.
- During an annual festival, Christian priests from both India and Sri Lanka conduct the service, with devotees from both India and Sri Lanka making the pilgrimage.
- Katchatheevu is not suited for permanent settlement as there is no source of drinking water on the island.
- **Dispute** – Katchatheevu was controlled by the Jaffna Kingdom of Sri Lanka.
- In the 17th century, control passed to the Ramnad zamindari based out of Ramanathapuram, about 55 km northwest of Rameswaram.
- It became part of the Madras Presidency during the British Raj.
- However, in 1921, both India and Sri Lanka, at the time British colonies, claimed Katchatheevu in order to determine fishing boundaries.
- A survey marked Katchatheevu in Sri Lanka, but a British delegation from India challenged this, citing ownership of the island by the Ramnad kingdom.
- This dispute was not settled until 1974.
- **Maritime Agreement** – In 1974, Indira Gandhi made attempts to settle the maritime border between India and Sri Lanka, once and for all.
- As a part of this settlement, known as the 'Indo-Sri Lankan Maritime agreement', Indira Gandhi 'ceded' Katchatheevu to Sri Lanka.
- As per the agreement, Indian fishermen were still allowed to access Katchatheevu hitherto.

- Unfortunately, the issue of fishing rights was not ironed out by the agreement.
- Sri Lanka interpreted Indian fishermen's right to access Katchatheevu to be limited to rest, drying nets and for visit to the Catholic shrine without visa.
- Another agreement in 1976, during the period of Emergency in India, barred either country from fishing in the other's Exclusive Economic Zone.
- Again, Katchatheevu lay right at the edge of the EEZs of either country, retaining a degree of uncertainty with regards to fishing rights.



3. d

Empathetic Voice Interface (EVI)

Hume, a New York-based research lab and technology company, has introduced what can be called the 'first conversational AI with emotional intelligence'.

- EVI is an Application Programming Interface (API) powered by its proprietary empathic large language model (eLLM).
- This eLLM reportedly understands and emulates tones of voices, and word emphasis to optimise human-AI conversations.
- The most standout feature of EVI is its integration capability, rather than being just a solitary application.

Applications

- AI assistants who can converse in a humanlike manner.
- Customer support agents who can provide a more natural and relatable service.
- Therapists adept at comprehending a wide range of human emotions and thoughts.

DALL-E

- DALL-E is a software that lets users generate art with the help of artificial intelligence.
- DALL-E has its origin in GPT (Generative Pre-trained Transformer).
- This is an open-source artificial intelligence program that can translate text, answer questions, summarize passages and generate new text.
- DALL-E is an implementation of GPT that essentially swaps text for pixels.
- DALL-E is a transformer language model that was trained on a large number of images and accompanying captions.
- This allows it to create original images from scratch using just text description.
- It can combine different objects, concepts, characteristics and styles while creating an image.

Sora

- Sora is OpenAI's text-to-video generative AI model.
- Similar to ChatGPT, one enters a text prompt, but instead of generating answers to questions or prompts in text form, Sora will generate videos up to one minute long.

4. b

Konda Reddi Tribes

Konda Reddi tribe's indigenous knowledge of Indian laurel tree proves resourceful.

- **Location** – Konda Reddis are inhabiting on the banks situated on either side of river Godavari in the hilly and forest tracts of East and West Godavari and Khammam districts of Andhra Pradesh.
- Konda Reddis are recognized as Primitive Tribal Group.
- Konda Reddis are categorized as particularly vulnerable tribal group.
- The population of Konda Reddis as per 1991 Census is 76,391.
- **Language** – The mother tongue of Konda Reddis is Telugu.
- **Social structure** – The Konda Reddi family is patriarchal and patrilocal.

- Monogamy is a rule but polygamous families are also found.
- **God** – They worship Muthayalamma (Village deity), Bhumi Devi (Earth Goddess), Gangamma Devi (River Goddess) etc.
- **Festival** – They celebrate festivals like Mamidi Kotha, Bhudevi Panduga, Gangamma Panduga and Vana Devudu Panduga.
- **Dance** – The men and women folk jointly perform the traditional colourful dance viz., Bison horn on festive and marriage occasions.
- **Political Organisation** – Konda Reddies have their own institution of social control called 'Kula Panchayat'.
- Each village has a traditional headman called 'Pedda Kapu'.
- **Livelihood** – They are primarily shifting cultivators and largely depend on flora and fauna of forest for their livelihood.

5. a

Central Water Commission (CWC), Central Groundwater Board (CGWB), Central Ground Water Authority (CGWA)

There is only enough water to fill 23% of the holding capacity in all of South India's reservoirs, Central Water Commission data.

Central Water Commission (CWC)

- CWC was earlier known as Central Waterways, Irrigation and Navigation Commission (CWINC).
- It was established in 1945 by the Government on the advice of Dr. B.R. Ambedkar, Member in Viceroy's Executive Council.
- The organization currently functions as an office attached to the Ministry of Jal Shakti, under the Department of Water Resources, River Development, and Ganga Rejuvenation.
- The work of the Commission is divided among 3 wings namely:
 1. Designs and Research (D&R) Wing
 2. River Management (RM) Wing
 3. Water Planning and Projects (WP&P) Wing
- **Role** – Initiate and Coordinate the schemes introduced by the Ministry of Jal Shakti.
- **Functions** –

1. Technical Appraisal of Irrigation Projects.
2. Management and Control of Floods.
3. Checking Financial Feasibility and Economic Viability of Different Irrigation Projects.

Central Groundwater Board (CGWB)

- Central Ground Water Board (CGWB) is the National Apex Agency, a subordinate office of the Ministry of Water Resources, Government of India.
- It is entrusted with the responsibilities of providing scientific inputs for management, exploration, monitoring, assessment, augmentation and regulation of ground water resources of the country.
- Central Ground Water Board was established in 1970 by renaming the Exploratory Tube wells Organization under the Ministry of Agriculture, Government of India.
- It was merged with the Ground Water Wing of the Geological Survey of India during 1972.
- **Headquarters** – Haryana.

Central Ground Water Authority (CGWA)

- Central Ground Water Authority has been constituted under Section 3 (3) of the Environment (Protection) Act, 1986.
- CGWA aims to regulate and control development and management of ground water resources in the country.
- **Activities** –
 1. Macro/micro level groundwater management studies.
 2. Exploratory drilling programme.
 3. Monitoring of groundwater levels and water quality through.
 4. Implementation of demonstrative schemes for artificial recharge and rainwater harvesting for recharge augmentation.

02-04-2024

1) Consider the following pairs of Geographical Indication (GI) Tagged Products and their respective States:

GI Tag Products	States
-----------------	--------

1. Jaapi - Nagaland
2. Eri Silk - Assam
3. Garo Textile - Tripura

How many of the above pairs are matched correctly?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements with respect to Callisto:

1. Callisto is a moon of Saturn.
2. Callisto is the third largest moon in our solar system.
3. Ozone is present in the atmosphere of Callisto.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

3) Consider the following statements with respect to the Kodaikanal Solar Observatory (KoSO):

1. It was established by the British Raj before India's Independence.
2. The Great Drought between 1876 and 1878 led to the establishment of KoSO.
3. The radial motion of sunspots, better known as the Evershed Effect, was discovered from the sunspot observations made at KoSO.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

4) Which of the following statements refer to the Havana Syndrome, recently seen in news:

- a. It is a condition in which a person has an extra chromosome or an extra piece of a chromosome.
- b. It is a genetic liver disease that causes high bilirubin levels.
- c. It is a genetic disorder passed from parents who suffered chemical attack in Havana, Cuba to their children.
- d. It is a set of mental health symptoms that are said to be experienced by United States intelligence and embassy officials in various countries.

5) Consider the following statements with respect to the Securities Appellate Tribunal (SAT):

1. It is a statutory body established under the Securities and Exchange Board of India Act, 1992.
2. SAT works under the jurisdiction of the Ministry of Company Affairs.
3. SAT has the same powers as vested in a civil court.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

Answers

1. a

GI Tags in News

Over 60 products from across India earn GI tags.

- This is the first time such a large number of Geographical Indication (GI) Tags have been given at a go.
- **GI Tags from Assam** – Asharikandi Terracotta Craft; Pani Meteka craft; Sarthebari metal craft; Jaapi; Mising handloom Products; Bihu dhol; Jotha; Gongar Dunjia; Gongona; Thoraka; Gamsa; Keradapini; Sifung; Jwmgra; Serja; Dokhona; Khardwi; Eri Silk; Kham.
- **GI Tags from Uttar Pradesh** – Banaras Thandai; Banaras Lal Bharwamirch; Banaras Tabla; Banaras Lal Pedas; Banaras Shehnai.
- **GI Tags from Tripura** – Pachra-Rignai; Matabari Pedas.

- **GI Tags from Meghalaya** – Meghalaya Garo Textile; Meghalaya Chubitchi; Meghalaya Lyrnai Pottery.

2. b

Ozone on Jupiter's Moon, Callisto

In a groundbreaking research collaboration featuring Indian scientists, new evidence has been unearthed pointing to the existence of ozone on Callisto, one of Jupiter's moons.

- Callisto is Jupiter's second largest moon after Ganymede and the third largest moon in our solar system, after Ganymede and Titan.
- It's about the same size as Mercury.
- Callisto was discovered Jan. 7, 1610, by Italian scientist Galileo Galilei along with Jupiter's three other largest moons: Ganymede, Europa and Io.
- Callisto is named for a woman turned into a bear by Zeus in Greek mythology.
- Zeus is identical to the Roman god Jupiter.
- Callisto's rocky, icy surface is the oldest and most heavily cratered in our solar system.
- Callisto is on the list of possible places where life could exist in our solar system beyond Earth.

3. c

Kodaikanal Solar Observatory (KoSO)

125 years of Kodaikanal Solar Observatory (KoSO).

- **Madras Observatory** – In 1792, the British East India Company established the Madras Observatory, a first of its kind in this part of the world.
- Madras Observatory is famous for the discovery of 58 asteroids and 21 variable stars.
- In Madras Observatory, astronomical observations of the Sun, the Moon, bright stars and planets recorded during 1812-1825 were preserved in two large data volumes.
- The first dedicated solar observations were recorded later in 1878 from the Trigonometrical Survey Office in Dehradun.
- The spectroscopic observations taken during the August 18, 1868, total solar eclipse from Guntur in Andhra Pradesh led to the discovery of helium, the Universe's second-most abundant element after hydrogen.

- For the first time, celestial and solar photography were attempted from the Madras Observatory during the total annual solar eclipse on December 12, 1871.
- **Great Drought** – Scanty rainfall over south India during the winter monsoon of 1875 triggered one of the worst droughts the country had experienced till then.
- India, along with China, Egypt, Morocco, Ethiopia, southern Africa, Brazil, Columbia and Venezuela, suffered concurrent multi-year droughts during 1876-1878.
- This drought was later named the Great Drought, and an associated global famine that killed nearly 50 million.
- The drought was thought to be due to multiple reasons such as
 1. Solar activity;
 2. Cool Pacific Ocean conditions
 3. El Nino (1877-1878)
 4. Strong Indian Ocean Dipole
 5. Warm North Atlantic Ocean conditions
- **Smith Commission** – The Famine Commission of the British Raj, led by Charles Michie Smith, recommended that the Government of India take regular solar observations.
- In August 1893, the Government of India sanctioned a Solar Physics Observatory under the meteorological budget.
- As a result Kodaikanal was chosen as the ideal location for setting the observatory to take regular solar observations.
- In 1895, Lord Wenlock, the then Governor of Madras, laid its foundation stone.
- The Madras Observatory was merged with the KoSO following the reorganization of all Indian observatories on April 1, 1899.
- **Bhavnagar Telescope** – The Bhavnagar Telescope, named after Maharaja of Bhavnagar, operated during KoSO's initial years.
- This 16-inch Newtonian (later Cassegrain) mobile telescope remained India's largest from 1888-1968.
- It was imported from Dublin, Ireland, and was first established at the Maharaja Takhtasinghji Observatory in Poona (now Pune) around 1888.

- However, the Poona observatory closed down and the telescope was sent to KoSO in 1912.
- **Observations made by KoSO –**
 1. Examination of the Sun's disc from spots and faculae.
 2. Tracing bright lines from the Sun's chromospheres and prominences.
 3. Visual and photographic observations of bright lines widened in the spectra of sunspots.
 4. Measuring solar radiations on clear sky days.
 5. Direct photography of the Sun in monochromatic lights of calcium and hydrogen.
- The radial motion of sunspots, better known as the Evershed Effect, was discovered from the sunspot observations made at KoSO by John Evershed, KoSO director from 1911-1922.
- Until the end of World War II in 1945, KoSO remained an observatory dedicated to solar physics.
- Thereafter, it expanded its ambit to study cosmic rays, radio astronomy, ionospheric physics, stellar physics and more areas.
- **Contemporaries** – The contemporaries, Maharaja Takhtasinghji Observatory, Lucknow Observatory, and Calcutta Observatory, did not stand the test of time.
- KoSO is the only observatory offering high-resolution digitised images for such a long period (with coverage of more than 75%).
- Havana syndrome was first reported by U.S. embassy officials in the Cuban capital of Havana in 2016.
- The officials began experiencing extreme headaches and hearing piercing sounds at night.
- The exact cause of Havana Syndrome remains unknown, however, it is assumed to be linked to possible sonic weaponry from Russia.
- The condition is characterized by unexplained symptoms that include migraines, fatigue, vertigo, anxiety, dizziness, memory lapses and cognitive impairment.
- **India** – In India, first such case was reported in the year 2021, when a US intelligence officer travelling to New Delhi with CIA director William Burns reported symptoms of Havana Syndrome.
- Sources in the Indian security establishment said that they were not aware of any weapon with such capacities being in the possession of an Indian agency.

5. b

Securities Appellate Tribunal (SAT)

Lack of full Bench takes a toll on SAT's functioning and efficiency.

- Securities Appellate Tribunal is a statutory body established under the provisions of Section 15K of the Securities and Exchange Board of India Act, 1992.
- SAT also aims to exercise jurisdiction, powers and authority conferred on the Tribunal by Act or any other law for the time being in force.
- SAT was setup to hear and dispose of appeals against orders passed by the:
 1. Securities and Exchange Board of India or by an adjudicating officer under the Act.
 2. Pension Fund Regulatory and Development Authority (PFRDA) under the PFRDA Act, 2013.
 3. Insurance Regulatory Development Authority of India (IRDAI) under the Insurance Act, 1938.
 4. General Insurance Business (Nationalization) Act, 1972.
 5. Insurance Regulatory and Development Authority Act, 1999 and

4. d

Havana Syndrome

According to a joint media intelligence, members of a Russian military intelligence unit could have targeted the brains of US officials by using directed energy weapons.

- Havana syndrome refers to a set of mental health symptoms that are said to be experienced by United States intelligence and embassy officials in various countries.
- Generally, the word 'syndrome' simply means a set of symptoms.
- It does not mean a unique medical condition, but rather a set of symptoms that are usually experienced together whose origins may be difficult to confirm.

the Rules and Regulations framed thereunder.

- It works under the jurisdiction of the Ministry of Finance & has only one bench which sits at Mumbai.
- It has the same powers as vested in a civil court & if any person feels aggrieved by SAT's decision or order can appeal to the Supreme Court.

03-04-2024

1) Consider the following statements with respect to the Wadge Bank

1. It is situated west of the Palk Strait within India's exclusive economic zone.
2. It is one of the world's richest fishing grounds.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Consider the following statements with respect to Kallakkadal

1. It refers to coastal flooding triggered by swell waves during the pre-monsoon period along the southwest coast of India.
2. It arises due to the influence of local winds and strong winds in the northern Indian Ocean.
3. The term 'Kallakkadal' received formal approval from the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2012.

How many of the statement(s) given above is/are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

3) Consider the following statements with respect to Tornadoes

1. It is a land-based vertical column of violently rotating air that forms from a thunderstorm to the ground.
2. Tornado systems can remain stationary.
3. They are the most common in the United States, Argentina and Bangladesh.

Which of the above statement(s) is/are correct?

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

4) Consider the following statements with respect to CoViNet

1. It assists in coordinating and facilitating global expertise for the early and accurate detection, monitoring, and assessment of Covid-19 virus variants only.
2. It is a network comprising global laboratories specializing in human, animal and environmental aspects.
3. It comprises 36 laboratories from 21 countries in all six WHO regions, including 3 Indian laboratories.

How many of the statements given above are **incorrect**?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

5) Bhojshala Complex, sometimes seen in the news, is located in?

- a. Madhya Pradesh
- b. Maharashtra
- c. Bihar
- d. Uttar Pradesh

Answers

1. c

Wadge Bank

- The negotiations and the orders essentially settled the maritime boundary between India and Sri Lanka in 1974 by giving sovereign rights over a maritime patch called 'Wadge Bank' near Kanyakumari to India.
- The *Wadge Bank* is located near Cape Comorin and lies to the south of Kanyakumari.
- It has been identified by the Fishery Survey of India as a 4,000-sq-mile area and considered as India's biggest fishery resource.
- **It is one of the world's richest fishing grounds** and in a much more strategic part of the sea than the island of Katchatheevu.
- **It lies within the exclusive economic zone of India** and India have sovereign rights over the area and its resources.
- The fishing vessels of Sri Lanka and persons on board these vessels shall not engage in fishing in the Wadge Bank.

2. b

Kallakkadal

- Kallakkadal is essentially coastal flooding during the pre-monsoon (April-May) season by swell waves on the southwest coast of India.
- It is also known as **swell surge**.
- Ocean swells occur **not due to the local winds**, but rather due to distant storms like hurricanes, or even long periods of fierce gale winds.
- **In 2012, the term was formally approved by the United Nations Educational, Scientific and Cultural Organization (UNESCO).**
- Usually, Kallakkadal is a consequence of the strong winds in the **southern part of the Indian Ocean**, where an ocean swell is generated, and the waves then travel north to reach the coast in 2 or 3 days.
- Kallakkadal occurs **without precursors or any kind of local wind activity** and as a result, it has been very difficult for the coastal population to get an advance warning.
- The early warning systems like the **Swell Surge Forecast System** launched by the *Indian National Centre for Ocean Information Services (INCOIS)* gives forewarning **7 days in advance**.

- *Kallakkadal* is often mistaken to be a tsunami, which is a series of enormous waves created by an underwater disturbance usually associated with earthquakes occurring below or near the ocean.
- The swell surge is likely to continue impacting Kerala and other western coast regions of the country.

3. d

Tornadoes

Recently a deadly tornado struck the Mainaguri area of Jalpaiguri district of West Bengal for 10 minutes that killed 5 people and injured over a 100.

- **A tornado is a land-based vertical column of violently rotating air that forms from a thunderstorm to the ground.**
- According to the National Weather Service (NWS) of the United States, it can have wind speeds in the range of 105-322 kilometres per hour.
- **The system itself can be stationary** or can move at a speed of round 97 km / hr.
- These extreme storms are rare in India and have mostly been reported in the eastern states of West Bengal, Odisha and Jharkhand during the pre-monsoon period.
- There is also evidence of some of them having formed in northwest India as well.
- **Tornadoes are the most common in the United States, Argentina and Bangladesh.**
- *In India, there is no official monitoring of tornadoes.*
- *Tornadoes require warm, humid air and a triggering rotation.* When cool northeast winds intersect with warm, moist ocean air, tornadoes can form.
- The weak background winds during the pre-monsoon season, allow tornadoes to persist and lower speeds of vertical winds, which allow them to grow.

4. a

CoViNet

- CoViNet is a network of global laboratories with expertise in human, animal and environmental coronavirus surveillance.

- **The network currently includes 36 laboratories from 21 countries in all six WHO regions.**
- **It was launched by the World Health Organization (WHO).**
- **It aids to facilitate and coordinate global expertise and capacities for early and accurate detection, monitoring and assessment of SARS-CoV-2, MERS-CoV and novel coronaviruses of public health importance.**
- CoViNet expands on the WHO COVID-19 reference laboratory network established during the early days of the pandemic.
- *The network will now have animal health and environmental surveillance and timely risk assessment to feed WHO policies and protective measures.*
- In low- and middle-income countries, CoViNet will support the building of more laboratories to monitor MERS-CoV and novel coronaviruses of public health importance.
- *CoViNet comprises 36 laboratories from 21 countries in all six WHO regions, including 3 Indian laboratories.*
- The 3 Indian laboratories in CoViNet includes:
 1. Council of Scientific and Industrial Research-National Environmental Engineering Research Institute (CSIR-NEERI),
 2. Indian Council of Medical Research-National Institute of Virology in Pune
 3. Translational Health Science and Technology Institute

5. a

Bhojshala Complex

Recently the Supreme Court refused to stay the ongoing 'scientific survey' of Bhojshala Complex and directed that no physical excavation should be done which could alter the appearance of the structure.

- Bhojshala complex, is a historical site contested by both Hindus and Muslims in **Madhya Pradesh's Dhar district.**
- The Bhojshala complex, an **11th-century structure** protected by the **Archaeological Survey of India (ASI)**, holds significance for both communities.

- Hindus revere it as a *temple dedicated to Vagdevi* (Goddess Saraswati), while Muslims refer to it as *Kamal Maula Mosque.*
- As per an arrangement established by the ASI on April 2003, Hindus conduct pujas on Tuesdays, while Muslims offer namaz on Fridays within the premises.

04-04-2024

1) Consider the following statements with respect to the Purana Qila

1. It was built by the Mughal Emperor Humayun and completed by Afghan Sher Shah Suri.
2. It was designed in the Indo-Islamic architectural style.
3. It was designated as a UNESCO World heritage site in 1999.

Which of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None

2) Consider the following statements with respect to the Opti Drop Platform

1. It is a laser-based technology that analyzes the characteristics of cells or particles.
2. It is developed by the Centre for Cellular and Molecular Platforms (C-CAMP).

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Which of the following jellyfish species was recently blooms off the coast of Andhra Pradesh?

- a. Sea nettle jellyfish
- b. Mauve stinger jellyfish
- c. Mushroom cap jellyfish
- d. Cannonball jellyfish

4) Consider the following statements with respect to the Living Wills

1. It is a legal document that allows patients who are no longer able to take medical decisions, to give instructions in advance concerning their medical treatment.
2. Both Passive and Active Euthanasia has been legalized by Supreme Court since 2018.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) With reference to startups of the world arrange the corn startups in descending order by their worth:

1. Unicorn
2. Minicorn
3. Soonicorn
4. Hectocorn
5. Decacorn

Consider the following order:

- a. 1>2>3>4>5
- b. 4>5>1>3>2
- c. 1>2>4>3>5
- d. 3>4>1>5>2

Answers

1. c

Purana Qila

- The Qila-i-Kunha Mosque situated within the fort exhibits 5 doorways and is designed in the **Indo-Islamic architectural style**.
- It was built by the **Mughal Emperor Humayun and completed by Afghan Sher Shah Suri**.
- Sher Mandal is situated within the fort, it is an octagonal tower built by Humayun as an observatory and library.
- It is designated as a **UNESCO World Heritage Site** in 1993.

2. b

OptiDrop

- It is an innovative **microfluidic chip-based platform** that simplifies and reduces the cost of **studying single cells** encapsulated in droplets.
- It is Developed by the **Centre for Cellular and Molecular Platforms (C-CAMP) and IIT, Madras**.

3. b

Mauve stinger or purple-striped jellyfish

- It is a toxic jellyfish that has a powerful sting which causes different degrees of illnesses and can be life-threatening.
- **Scientific Name** - Pelagia noctiluca.
- **Distribution** – It is found worldwide in **tropical and warm-temperature seas**.
- It is considered as one of the notorious bloom forming species in the world's oceans due to its wide distribution.
- A jellyfish bloom is when the population of the species increases dramatically within a short period of time, usually due to a higher reproduction rate.
- **Uniqueness** - Unlike other jellyfish species, it has stingers not just on the tentacles, but on the bell too.
- **Luminescence** - These are bioluminescent, having an ability to produce light in the dark.
- **Migration** - They participate in diel vertical migration, moving closer to the surface at night and deeper during the day.
- **Diet** – They are **carnivorous**, preying on zooplankton, small fish, crustaceans, other jellyfish, and eggs.

Conservation status	
IUCN Red List Status	Not Evaluated
CITES status	
Convention on Migratory Species	

4. a

Living will

- It is a legal document that allows patients who are no longer able to take medical decisions, to give instructions in advance concerning their medical treatment (Passive Euthanasia).
- The Supreme Court allowed **passive euthanasia since 2018.**

5. b

Types of Startups	
Minicorn	<ul style="list-style-type: none"> • Minicorns refer to startups which has a valuation of \$1 million or more. • They are considered less risky and are new to the game.
Soonicorn	<ul style="list-style-type: none"> • A soonicorn is a startup which is expected to reach unicorn status (\$1 billion) very soon. • It implies that the startup has gained a significant market share and is on a rapid growth trajectory. • However, they are considered riskier as they still have to face significant competition in the market than established unicorns.
Unicorn	<ul style="list-style-type: none"> • A Unicorn is a startup that has achieved a valuation of \$1 billion but less than \$10 billion. • It is used to describe the exceptional growth and potential of the company. • Unicorn companies are often considered to be the most valuable and innovative in the world.
Decacorn	<ul style="list-style-type: none"> • Decacorn is a startup that has a valuation of \$10 billion or more. • Decacorns are companies which are highly valued and are often represented in the elite category. • They are well-established, innovative and disruptive and have the strength to transform

	<p>the industries in which they operate.</p> <ul style="list-style-type: none"> • They face a lot of challenges as they continue to grow and scale.
Hectocorn	<ul style="list-style-type: none"> • Hectocorn is used to describe startups that have a valuation of \$100 billion or more. • They have reached extraordinary levels of valuation and now represent an elite group of companies. • Investing in hectacorn companies is rare but they are considered safe investments because of their reputation and strong financial resources.

05-04-2024

1) Consider the following statements:

1. Artificial Sun is a nuclear reactor that works on the principal of nuclear fission.
2. China’s Advanced Superconducting Tokamak (EAST) is the world’s biggest tokamak.
3. India is one of the funding members of the International Thermonuclear Experimental Reactor (ITER).

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements with respect to the FASTag:

1. FASTag works on the principle of Radio Frequency Identification Card (RFID).
2. The system operates on the lines of a prepaid phone card.
3. The One Vehicle, One FASTag aims to deter the practice of using a single FASTag for multiple vehicles.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two

- c. All three
- d. None of the above

3) Consider the following statements with respect to the allocation of election symbols:

1. Symbols are allotted to political parties as per the provisions of the Symbols Order by ECI.
2. The candidates of recognised parties enjoy the advantage of being listed at the top of the ballot in the Electronic Voting Machine.

Which of the above given statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) The Quds Force, recently seen in news, is from which of the following countries?

- a. Iran
- b. Iraq
- c. Yemen
- d. Syria

5) Consider the following statements with respect to the Ring of Fire:

1. It is a string of hundreds of active volcanoes and frequent earthquakes.
2. The Ring of Fire is located across all continents of the Earth.
3. Circum Pacific Belt is the other name of Ring of fire.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

Artificial Sun

Korean Fusion Reactor 'Artificial Sun' sets record for sustaining plasma at 100 million Degree Celsius.

- **KSTAR** – South Korean scientists have set a new world record using the Korea Superconducting Tokamak Advanced Research (KSTAR) device, an artificial Sun nuclear fusion reactor.
- **48 Seconds** – The team generated plasma temperatures of 100 million degrees Celsius for 48 seconds (30 seconds in 2021) during tests between December 2023 and February 2024.
- This temperature is seven times that of the Sun's core, which is 15 million degrees Celsius.
- **Aim** – KSTAR aims to sustain plasma temperatures of 100 million degrees Celsius for 300 seconds by 2026.
- **Tokamak** – Common way of achieving fusion energy involves a doughnut-shaped reactor called a tokamak in which hydrogen variants are heated to extraordinarily high temperatures to create plasma.
- The activities of KSTAR will feed into the development of the International Thermonuclear Experimental Reactor (ITER) in Southern France.
- **ITER** – ITER is the world's biggest tokamak which aims to prove the feasibility of fusion.
- It will not produce any electricity; instead, ITER will resolve the critical scientific and technical issues to take fusion to the point where industrial applications can be envisioned.
- **Funds** – ITER is funded and run by seven member parties, China, the European Union, India, Japan, Russia, South Korea and the United States.
- **India** – India became a full partner of the ITER Project in 2005.
- ITER is intended to advance India's own nuclear fusion programmes and research.
- The Institute for Plasma Research (IPR), a dedicated research institute under the Department of Atomic Energy, supervises the ITER-India as well as India's two tokamaks, ADITYA-U and SST-1.
- China's artificial Sun, the [Experimental Advanced Superconducting Tokamak \(EAST\)](#) reactor is an advanced nuclear fusion experimental research device.

Answers

1. b

2. c

One Vehicle, One FASTag

The National Highways Authority of India (NHAI) has rolled out the 'One Vehicle, One FASTag' scheme.

- FASTag is an electronic toll collection system in India, operated by the National Highways Authority of India (NHAI).
- The fast tag (FASTag) are a Radio Frequency Identification Card (RFID) pasted to the windscreen of the vehicle.
- The system operates on the lines of a prepaid phone card, which enables electronic payment at tolls on national highways.
- The 'One Vehicle, One FASTag' concept aims to deter the practice of using a single FASTag for multiple vehicles or associating multiple FASTags with one vehicle.

3. c

Allocation of Election Symbols

The Naam Tamilar Katchi has been allotted a new common symbol and the Viduthalai Chiruthaigal Katchi has been denied a common symbol, raising questions on allotment of symbols to registered unrecognised political parties (RUPPs).

- A party is recognised as a 'national' or 'state' party under the provisions of the [Election Symbols](#) (Reservation and Allotment) Order, 1968 (Symbols Order) by the Election Commission of India (ECI).
- **Criteria** – The criteria for recognition at the State level consists of:
 1. Winning one Lok Sabha seat for every 25 seats or 3% of Legislative Assembly seats (or)
 2. Winning one Lok Sabha or two Assembly seats along with 6% of votes polled (or)
 3. Securing 8% of votes polled in a general election.
- **Symbols Order** – Symbols are allotted to political parties and contesting candidates as per the provisions of the Symbols Order by ECI.
- **Recognised Party** – A recognised [political party](#) has a reserved symbol that is not allotted to any other candidate in any constituency.
- **RUPPs** – RUPPs are either newly-registered parties or those which:

1. Have not secured enough percentage of votes in the Assembly or general election to become a State party
2. Those that have never contested elections after being registered.

- **Free Symbols** – For RUPPs, one of the free symbols is allotted as a common symbol during an election if that party contests in two Lok Sabha constituencies or in 5% of seats to the Assembly of a State as the case may be.
- **Rule 10B** – Rule 10B of the [Symbols Order](#) provides that the concession of a common free symbol shall be available to a 'registered unrecognised party' for two general elections.
- **Common Symbol** – A party shall be eligible for a common symbol in any subsequent general election if it had secured at least 1% of votes polled in the State on the previous occasion when the party availed of this facility.
- Common symbols are provided to RUPPs based upon an undertaking that they would put up at least 5% of total candidates with regard to said Legislative Assembly election of a State.
- Such an unrecognised party should however apply for a symbol every time in the prescribed format.
- This application can be made any time during the period commencing six months prior to the expiry of the term of the Lok Sabha or State Assembly as the case may be.
- **First-Come-First-Served** – The symbols are thereafter allotted on a 'first-come-first-served' basis.
- The candidates set up by recognised parties enjoy the advantage of being listed at the top of the ballot in the Electronic Voting Machine.

4. a

Quds Force

Israeli war jets attacked an Iranian consulate building in Damascus, Syria, killing at least 13 people, including General Mohammad Reza Zahedi, who was a senior leader of the Iranian Quds Force.

- **IRCG** – The Quds Force is the paramilitary and intelligence wing of the [Iranian Revolutionary Guard Corps \(IRCG\)](#).
- **Islamic Revolution** – The IRCG was set up by the leader of the Islamic Revolution and Iran's first Supreme Leader, Ayatollah Ruhollah Khomeini, in 1979.

- After the 1979 Islamic Revolution dislodged the ruling Shah from power, a theocratic state was established in Iran.
- For its protection, the [IRGC](#) was created to deal with both domestic and external threats.
- **Parallel Force** – IRGC remains a force parallel to that of Iran’s regular armed forces.
- It has army, naval, and air force wings, and its total membership numbers around 125,000.
- In 2019, the United States designated the IRGC (and the Quds Force as part of it) a terrorist organisation.
- **Role** – The Quds forces are a specialized unit within the [IRGC](#) responsible for carrying out unconventional warfare and extraterritorial operations.
- The IRGC is also involved particularly in supporting proxy groups and conducting intelligence activities abroad.
- The abundance of magma so near to Earth’s surface gives rise to conditions ripe for volcanic activity.
- A significant exception is the border between the Pacific and North American Plates.
- This stretch of the Ring of Fire is a transform boundary, where plates move sideways past one another.
- This type of boundary generates a large number of earthquakes as tension in Earth’s crust builds up and is released.
- **Countries** – The Pacific Ring of Fire runs through countries including the USA, Indonesia, Mexico, Japan, Canada, Guatemala, Russia, Bolivia, Ecuador, Chile, Peru, Costa Rica, Philippines, New Zealand, Australia, and Papua New Guinea.

5. b

Ring of Fire

Taiwan is prone to earthquakes as it lies along the Pacific Ring of Fire, where 90% of the world’s earthquakes take place

- **Circum-Pacific Belt** – The [Ring of Fire](#) is also referred to as the Circum-Pacific Belt.
- It is a path along the Pacific Ocean characterized by a string of hundreds of active volcanoes and frequent earthquakes.
- It is a semicircle or horse shoe in shape and stretches nearly 40,250 kilometres.
- The majority of [Earth’s volcanoes](#) and earthquakes take place along the Ring of Fire.
- It traces boundaries between several tectonic plates, including the Pacific, Juan de Fuca, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates.
- **Reasons for predominant volcanoes** – Along much of the [Ring of Fire](#), plates overlap at convergent boundaries called subduction zones.
- That is, the plate that is underneath is pushed down, or subducted, by the plate above.
- As rock is subducted, it melts and becomes magma.

06-04-2024

1) Consider the following statements with respect to Tornado:

1. It is a narrow, violently rotating column of air that extends from a thunderstorm to the ground.
2. In the United States, twister is used as a colloquial term for tornado.
3. In India, West Bengal and Odisha are vulnerable to tornadoes during pre-monsoon season.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements:

1. Gurkhas are soldiers from Nepal serving currently both in the Indian Army and in the British Army.
2. The Lisu people of China and Myanmar are known as Yobins in India.
3. The Yobins are considered refugees from Myanmar and do not have no citizenship rights in India.

How many of the above statement(s) is/are correct?

- Only one
- Only two
- All three
- None of the above

3) Consider the following statements with respect to the Exchange Traded Currency Derivatives (ETCDs):

- ETCDs are standardized financial contracts that are traded in stock exchanges.
- In India ETCDs are administered by the Reserve Bank of India (RBI).

Which of the above given statement(s) is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

4) Consider the following statements with respect to Well-Known Trademarks:

- Both trademarks and well-known trademarks are governed under the purview of the Trademarks Act, 1999.
- A well-known mark can be both licensed and franchised to others.
- The Registrar of Trade Marks maintains a list of well-known trademarks of both Indian and foreign trademarks.

How many of the above statement(s) is/are correct?

- Only one
- Only two
- All three
- None of the above

5) Consider the following statements with respect to tax exemptions to political parties:

- Section 13A of the Income Tax exempts recognised political parties from paying income tax on the income they receive.
- Parties violating provisions of Section 13A will not be able to claim tax exemption based on

rules under the Representation of the People Act, 1951.

Which of the above statement(s) is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answers

1. d

Tornado

IMD warns of more tornadoes in northern Bengal after 5 killed.

- Tornado** – A tornado is a narrow, violently rotating column of air that extends from a thunderstorm to the ground.
- In the United States, twister is used as a colloquial term for tornado.
- Characteristics** – Because wind is invisible, it is hard to see a tornado unless it forms a condensation funnel made up of water droplets, dust and debris.
- Tornadoes can be among the most violent phenomena of all atmospheric storms experienced on Earth.
- Before a tornado hits, the wind may die down and the air may become very still.
- A cloud of debris can mark the location of a tornado even if a funnel is not visible.
- Tornadoes generally occur near the trailing edge of a thunderstorm.
- Occurrence** – Tornadoes occur in many parts of the world, including Australia, New Zealand, Europe, Africa, Asia, and South America.
- Two of the highest concentrations of tornadoes outside the U.S. are Argentina and Bangladesh.
- India** – In India, West Bengal and Odisha are vulnerable to tornadoes during pre-monsoon season (March-May).
- Northwest India does not normally experience this violent weather phenomenon; but there have been a few cases over the region.
- In India, there is no official monitoring of tornadoes.

2. b

Gurkhas & Yobins

Tensions between the settlers, who are primarily families of Gurkhas who served in the Army and the Assam Rifles, and the Yobins, a trans-border community that was given Scheduled Tribe status, have been rising.

- **Gurkhas** – Gurkhas are soldiers from Nepal serving in the Indian Army and in the British Army.
- In 1947, when India became independent, it was decided to split Gurkha regiments between the British and Indian armies.
- After the 1947 Tripartite Agreement, the British Army amalgamated the Gurkha regiment into combined Royal Gurkha Rifles (RGR).
- Currently, the Gurkhas comprise up to 3% of the British Army.
- The Gurkhas are recruited every year at the British Gurkha camp at Pokhara in Nepal.

Lisu People – Yobins

- The vast majority of the Lisu people live in China or Myanmar, but a few reside in Thailand or India.
- The Lisu people in India are called Yobin.
- In India, they are found in Shidi Valley and Nibodi village of Arunachal Pradesh, surrounded by Namdapha National Park.
- The tribe is speculated to have originated from the Yunnan region in North-Western Tibet in the 18th century and were traditionally slash and burn farmer communities.
- It is believed that in the 19th century, they started going towards the south and reached what is now China, India, Myanmar, Laos, and Thailand.
- They have the largest population in South-West China and almost all Yobin claim to be Christians.
- They celebrate harvest festival for two days in October.
- In the 1980s, the Lisu tribe in India was not given the privilege of Indian citizenship, and they were considered refugees from Myanmar and China.
- By 1994, India granted them citizenship, and in 1950, they were included in the Scheduled Tribes list.

3. a

Exchange Traded Currency Derivatives (ETCDs)

RBI defers Exchange Traded Currency Derivatives (ETCDs) norms.

- ETCD is a standardized financial contract that is traded in stock exchanges in a regulated manner.
- They are subject to the rules framed by market regulators such as Securities and Exchange Board of India (SEBI) in India.
- ETCD are essentially contracts, deriving values from the price fluctuation of their underlying assets.
- **Types of Derivatives** – They are two types of derivatives:
 1. One that is subject to standardized terms and conditions, and hence being traded in the stock exchanges.
 2. Second type being traded between private counter-parties, in the absence of a formal intermediary.
- The first type is known as Exchange Traded Derivatives (ETDs), the second is known as Over the Counter (OTC) derivatives.
- **Types of ETDs** – Stock ETDs, Index ETDs, Currency ETDs, Commodity ETDs, and Bond ETDs.
- **Working** – Exchange-traded currency contracts work on the same principle of buying at a low price and selling at a higher price.
- However, exchange-traded currency contracts are always bought in pairs:
 1. Indian Rupee vs United States Dollar (USD-INR)
 2. Indian Rupee vs Euro (EUR-INR)
 3. Indian Rupee vs Great Britain Pound (GBP-INR)
 4. Indian Rupee vs Japan's Yen (JPY-INR)

4. c

Well-Known Trademark

Delhi High Court declared Haldiram and its oval-shaped logo as well-known trademark for food items, restaurants, and eateries under the Trade Marks Act, 1999.

- The Trade Marks Act, 1999, provides protection to well-known trademarks to prevent misuse and obligates the Registrar to safeguard them against similar trademarks.
- Once a mark is declared well-known, the owner can prevent others from registering or using identical or similar marks for different goods and services.
- A well-known mark adds value to a brand and increases its reputation in the market.
- **License** – A well-known mark can be licensed or franchised to others.
- **Criteria** – The Indian Trademarks Act provides several factors that can be considered when determining whether a trademark is well-known, including:
 1. The degree of knowledge or recognition of the mark in the relevant section of the public in India.
 2. The duration, extent, and geographical area of any use of the mark in India.
 3. The duration, extent, and geographical area of any promotion of the mark in India.
 4. The degree of inherent or acquired distinctiveness of the mark.
 5. The extent to which the mark has been registered in India or in other countries.
- **Registrar of Trade Marks** – The Registrar of Trade Marks maintains a list of famous trademark in India.
- This list includes both Indian and foreign trademarks.
- Some of the well-known marks in India include, Amul, Coca-Cola, Bisleri, Google, Pepsi, Nestle, McDonald's, Samsung, LG, Nike, BMW, Mercedes-Benz, Sony, Nokia, and Adidas.
- Accordingly, income from house property, other sources, capital gains or received through voluntary contributions, are exempted from total income.
- However, they must meet prescribed conditions.
- **Prescribed Conditions** –
 1. A party must maintain books of account and other documents to enable the tax department's assessing officer to properly deduce its income.
 2. For each voluntary contribution, other than contributions made through electoral bonds in excess of Rs 20,000 (this no longer applies), it needs to maintain records of contributions and the name and address of the donor.
 3. Party accounts have to be audited by a Chartered Accountant (CA).
 4. Donations of over Rs 2,000 must be made via account payee cheques, electronic transfer, or electoral bonds (now defunct).
 5. The treasurer or an authorized person should furnish a report of donations of over Rs 20,000 to EC on or before the due date for filing returns.
 6. Parties must file returns for the previous financial year by the prescribed date.
- **Violation of Conditions** – Non-compliance results in the exemption being withdrawn as it is a beneficial provision.
- If any of these conditions are not satisfied, the party will not be able to claim income tax relief, according to section 13A of the Income-tax Act as well as Section 29C of the Representation of the People Act, 1951.
- Along with returns, parties also have to attach certain documents, such as the balance sheet, income and expenditure statement, contribution report, among others.
- **Denial of Tax Exemption** – In case of denial of tax exemption, political parties are treated as association of persons and are taxed according to the applicable slab.

5. c

Tax exemptions to political parties

Income Tax department assured Supreme Court that they would not take coercive steps to recover about Rs 3,500 crore from the Congress Party.

- **Income Tax Act** – Section 13A of the Income Tax Act, which has special provisions, applies to recognised parties.
- Section 13A of the IT Act exempts political parties from paying income tax on the income they receive.

08-04-2024

1) Consider the following statements with respect to Lok Adalats:

1. Lok Adalats have been given statutory status under the Legal Services Authorities Act, 1987.
2. If the parties are not satisfied with the decision of the Lok Adalat there is no provision for an appeal against the decision.
3. There is no court fee payable when a matter is filed in a Lok Adalat.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following pairs of Indus Valley Civilisation (IVC) sites and their location:

IVC Site	Location
1. Banawali	Punjab
2. Ropar	Haryana
3. Kalibangan	Rajasthan

How many of the above pair(s) are matched correctly?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

3) The Jenu Kuruba Tribal Community belongs to which of the following state?

- a. Chhattisgarh
- b. Odisha
- c. Karnataka
- d. Andhra Pradesh

4) Consider the following statements with respect to the Unified Payment Interface (UPI):

1. UPI is an indigenous digital payment system that operates under the National Payments Corporation of India (NPCI).
2. UPI Lite will enable offline transactions of smaller values.

3. The users will not be required to enter their UPI PIN while confirming UPI Lite payments.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following statements with respect to Polar Vortex:

1. Vortex is the counter-clockwise flow of air that helps keep the colder air near the Poles.
2. Polar Vortex is a large area of low pressure that occurs in earth's stratosphere.
3. Polar Vortex strengthens in summer and weakens in winter.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

Answers

1. c

Lok Adalat

Lok Adalat proceedings are not judicial in nature: Karnataka High Court.

- **NALSA** – The [National Legal Services Authority \(NALSA\)](#) along with other Legal Services Institutions conducts Lok Adalats.
- **ADR** – Lok Adalat is one of the [Alternative Dispute Redressal \(ADR\)](#) mechanisms.
- It is a forum where disputes/cases pending in the court of law or at pre-litigation stage are settled/compromised amicably.
- **Status** – [Lok Adalats](#) have been given statutory status under the [Legal Services Authorities Act, 1987](#).
- **Decree** – Under the said Act, the award (decision) made by the Lok Adalats is deemed to be a decree of a civil court and is final and

binding on all parties and no appeal against such an award lies before any court of law.

- **Appeal** – If the parties are not satisfied with the award of the Lok Adalat there is no provision for an appeal against such an award.
- However, they are free to initiate litigation by approaching the court of appropriate jurisdiction.
- This can be done by filing a case by following the required procedure, in exercise of their right to litigate.
- **Fee** – There is no court fee payable when a matter is filed in a Lok Adalat.
- If a matter pending in the court of law is referred to the Lok Adalat and is settled subsequently, the court fee originally paid in the court on the complaints/petition is also refunded back to the parties.
- **Conciliators** – The persons deciding the cases in the Lok Adalats are called the Members of the Lok Adalats, they have the role of statutory conciliators only and do not have any judicial role.
- Therefore they can only persuade the parties to come to a conclusion for settling the dispute outside the court in the Lok Adalat and shall not pressurize the parties to compromise matters.
- **Nature of cases to be referred to Lok Adalat** –
 1. Any case pending before any court.
 2. Any dispute which has not been brought before any court and is likely to be filed before the court.
 3. Provided that any matter relating to an offence not compoundable under the law shall not be settled in Lok Adalat.
- **National Lok Adalat** – They are held for at regular intervals where on a single day Lok Adalats are held throughout the country, in all the courts right from the Supreme Court till the Taluk levels.
- **Permanent Lok Adalat** – It is organised under Section 22-B of the Legal Services Authorities Act, 1987.
- Permanent Lok Adalats have been set up as permanent bodies with a Chairman and two members.
- The members provide compulsory pre-litigative mechanism for conciliation and settlement of

cases relating to Public Utility Services like transport, postal, telegraph etc.

- The Award of the Permanent Lok Adalat is final and binding on all the parties.
- The jurisdiction of the Permanent Lok Adalats is upto Rs. Ten Lakhs.
- **Mobile Lok Adalats** – They are organised in various parts of the country which travel from one location to another.

2. a

Important IVC Sites

In the latest revisions that the National Council of Educational Research and Training (NCERT) has added the Rakhigarhi findings and dropped the references on Narmada Dam.

Site – Location

1. Banawali - Haryana
2. Dholavira - Gujarat
3. Mohenjo Daro - Pakistan
4. Ropar - Punjab
5. Kalibangan - Rajasthan
6. Chanhudaro - Pakistan
7. Surkotada - Gujarat
8. Sutkagan Dor - Iran-Pakistan Border
9. Rangapur - Gujarat
10. Rakhigarhi - Haryana
11. Lothal - Gujarat
12. Alamgirpur - Uttar Pradesh
13. Harappa - Pakistan
14. Kot Diji - Pakistan

3. c

Jenu Kuruba Community (Kattunayakkars)

Decades after independence, basic facilities are still distant dream to Jenu Kuruba settlement in Kodagu.

- **Jenu** – Jenu in Kannada means honey and Kuruba is the caste.
- As the name suggests, they are a traditional honey gathering tribe.
- **Other Name** – Kattunayakkars (King of the forest)

- **Habitat** – They are among the original inhabitants of the forests of the Western Ghats that stretch over three states, Karnataka, Kerala, and Tamil Nadu.
- Majority of the Jenu Kurubas are from Karnataka and post 1970s, they are relocated around Nagarhole and Bandipur forests to enable tiger conservation project.
- Bidru Kotta, a bamboo percussive instrument is played by the tribe.
- **Occupation** – The main occupation used to be food gathering in the forests, collection of minor forest produce in the forests, collection of minor forest produce including honey.
- **Lifestyle** – They live in small settlements called Hadi.
- They practice agriculture as a subsidiary occupation.
- Instead of ploughing the field, they scratch the surface with a sort of bamboo spear.
- In Karnataka, Jenu Kuruba and Koraga stand out as the most vulnerable among the 50 tribal communities.

4. c

New Features of UPI

RBI introduces two new UPI Features, from Cash Deposit to PPI Wallet Interoperability.

- UPI is the indigenous digital payment system in India that was conceptualized and operated by the National Payments Corporation of India (NPCI) in 2016.
- It powers multiple bank accounts into a single mobile application merging several banking features, seamless fund routing & merchant payments into one hood.
- **UPI Lite** – UPI Lite will be an on-device wallet functionality that will enable offline transactions of smaller values.
- UPI Lite will work via the wallet system.
- **Transaction limit** – Funds have to be added in the UPI Lite wallet and which can be used to make small payments under Rs 200.
- **Wallet limit** – There is an Rs 2,000 limit on the amount of money you can have in this UPI Lite wallet.
- The users will not be required to enter their UPI PIN while confirming UPI Lite payments.

5. b

Reversal of Arctic Polar Vortex

Scientists discovered that the Earth's polar vortex has mysteriously reversed.

- **Polar vortex** – The **polar vortex** sits in the **stratosphere**, which starts at around 6–20 kilometers above the planet's surface and reaches roughly 50 kilometers above.
- The polar vortex is a large area of low pressure and cold air surrounding both of the Earth's poles.
- It always exists near the poles, but weakens in summer and strengthens in winter.
- **Vortex** – The term vortex refers to the counter-clockwise flow of air that helps keep the colder air near the Poles.
- Many times during winter in the northern hemisphere, the polar vortex will expand, sending cold air southward with the jet stream.
- Polar Vortex is not a feature that exists at the Earth's surface.
- Weather forecasters examine the polar vortex by looking at conditions tens of thousands of feet up in the atmosphere.
- **Arctic Polar Vortex** – The Arctic polar vortex is a band of strong westerly winds that forms in the stratosphere between about 10 and 30 miles above the North Pole every winter.
- The winds enclose a large pool of extremely cold air.
- There is an even stronger polar vortex in the Southern Hemisphere stratosphere in its winter.
- The stronger the winds, the more the air inside is isolated from warmer latitudes, and the colder it gets.

09-04-2024

1) Consider the following statements with respect to recent earthquakes in New York:

1. The city of New York lies on the San Andreas Fault.
2. San Andreas Fault forms part of the tectonic boundary between the Pacific Plate and the North American Plate.

Which of the above statement(s) is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

2) Consider the following statements with respect to Charminar:

- It was built by Aurangzeb to commemorate his victory over Vijayanagar Empire.
- The architectural design of Charminar is inspired from the Shia tazias.
- Charminar is part of the UNESCO World Heritage Site.

How many of the above statement(s) is/are **incorrect**?

- Only one
- Only two
- All three
- None of the above

3) Consider the following statements with respect to Cantonments:

- A cantonment is both created and administered by the Central government.
- Both civilians and military personnel can reside in a place notified as a cantonment.
- Ajmer Cantonment is one of the cantonments created after India's independence.

How many of the above statement(s) is/are correct?

- Only one
- Only two
- All three
- None of the above

4) Consider the following statements with respect to the United Nations (UN) Membership Process:

- States are admitted to membership in the UN by a decision of the General Assembly upon the recommendation of the Security Council.
- For a country to attain achieve full membership it should receive affirmative votes of 9 of the 15 members of the Security Council.

Which of the above statement(s) is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

5) Consider the following statements with respect to Solar Eclipse:

- Solar Eclipse occurs when Earth is positioned precisely between the Moon and the Sun.
- Solar Eclipse occurs on a full moon day.

Which of the above statement(s) is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answers

1. b

New York Earthquake

A rare earthquake of 4.8 hit the densely populated New York City metropolitan area.

- The tremors that hit near New Jersey, were reportedly felt widely from Washington, DC to New York City to New England.
- The region is unaccustomed to earthquakes.
- There have only been 24 [earthquakes](#) of 2.5 magnitude or greater in New Jersey since 1700.
- East Coast** – Earthquakes are less common on the eastern than western edges of the US because the East Coast does not lie on a boundary of tectonic plates.
- However, they have occurred in every state east of the Mississippi River.
- Earthquakes in the eastern US are felt across a far broader area because the bedrock is much older and harder, transferring seismic energy more easily.
- The biggest Eastern quakes usually occur along the [mid-Atlantic Ridge](#), which extends through [Iceland](#) and the [Atlantic Ocean](#).

- **Rocks** – The rocks in the western US are younger and contain more faults that absorb earthquake energy.
- Those older rocks have been exposed to more extreme temperatures and pressure, and faults have had more time to heal.
- **Seismic Waves** – [Seismic waves](#) travel across the resulting harder and denser faults much more efficiently, so the effects of a quake are felt across a larger area.
- In the West, faults are newer and absorb more of the seismic wave energy without spreading as far.

2. b

Charminar

- **Built by** – Charminar was built by Sultan Mohammed Quli Qutb Shah in 1591.
- **Built for** – The actual reason behind building [Charminar](#) is still not clear.
- It is said that this square shaped structure with four pillars and intricate carvings was built in honour of his wife, Bhagmati.
- Charminar was built to acknowledge the elimination of the plague which had affected the entire city immensely during that era.
- It is believed that the Sultan had prayed for the end of this plague with which his people were suffering.
- Hence, as the plague ended, he built the Charminar as a tribute to Allah.
- The four pillars are also said to be dedicated to the first four caliphs of Islam.
- **Architecture** – An Iranian architect Mir Momin Astrawadi, who had settled in Hyderabad, designed Charminar.
- **Tazias** – The architectural design of Charminar is inspired from the Shia “tazias”.
- These Tazias were built in the memory of Hussain, who was the son in law of Prophet Muhamed and had lost his life in the battle of Karbala.
- Charminar has been built with granite and lime mortar.
- The manner with which each pillar has been built makes it appear as a lotus leaf.

- The arches around the structure do lead to slightly shorter appearance when in comparison to the minars.
- Charminar, along with the Qutb Shahi Monuments of Hyderabad: the Golconda Fort, and the Qutb Shahi Tombs, were included in the tentative list of UNESCO World Heritage Site.

3. c

Cantonments

Land portions from 10 cantonment boards to be run by local bodies.

- **Cantonment** – A cantonment is created as well as administered by the Central government.
- [Cantonments](#) are designed as places of residence of both civilians and military personnel.
- Cantonments are different from the Military Stations.
- Military Stations are purely meant for the use and accommodation of the armed forces and these are established under an executive order.
- It is the Entry 3 of Union List (Schedule VII) of the Constitution of India.
- Cantonments are notified under the Cantonments Act, 1924 (succeeded by the Cantonments Act, 2006).
- The overall municipal administration of the notified Cantonments is the function of the Cantonment Boards which are democratic bodies.
- The Station Commander of the Cantonment is the ex-officio President of the Board.
- The Board has equal representation of the elected and nominated/ex-officio members to balance the official representation with the democratic composition.
- There are four categories of Cantonments which depend on the size of population residing inside a Cantonment.
- Directorate General Defence Estates (DGDE) is an Inter Services Organisation of the Ministry of Defence which directly controls the Cantonment Administration.
- The executive officer of the cantonment board is appointed by the President of India.

- He/She implements all the resolutions and decisions of the board and its committees and he/she belongs to the central cadre established for the purpose.
- Only six cantonments were established after independence, Jammu in 1954, Badami Bagh in 1954, Morar in 1956, Dehu Road in 1958, Babina in 1959, and Ajmer in 1962.

4. c

U.N. Membership Process

UN Security Council refers Palestinian application to become full UN member to committee.

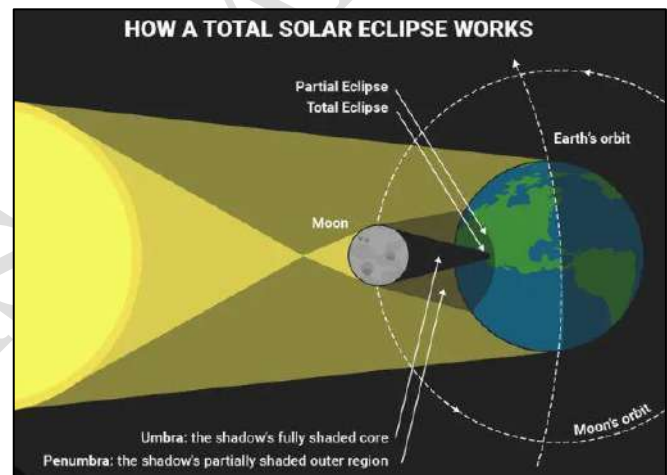
- **Open to** – UN full membership is open to all peace-loving States that accept the obligations contained in the [United Nations Charter](#) and are able to carry out these obligations.
- States are admitted to membership in the [United Nations](#) by a decision of the General Assembly upon the recommendation of the Security Council.
- **The procedure** –
 1. The State submits an application to the Secretary-General and a letter formally stating that it accepts the obligations under the Charter.
 2. The Security Council considers the application.
 3. Any recommendation for admission must receive the affirmative votes of 9 of the 15 members of the Council, provided that none of its [five permanent \(P5\) members](#) have voted against the application.
 - **P5 members** – China, France, the Russian Federation, the United Kingdom of Great Britain and Northern Ireland and the United States of America.
 4. If the Council recommends admission, the recommendation is presented to the General Assembly for consideration.
 5. A two-thirds majority vote is necessary in the Assembly for admission of a new State.
 6. Membership becomes effective the date the resolution for admission is adopted.
- It should be noted that the normal change of Governments, as through a democratic

election, does not raise any issues concerning the credentials of the representative of the State concerned.

5. d

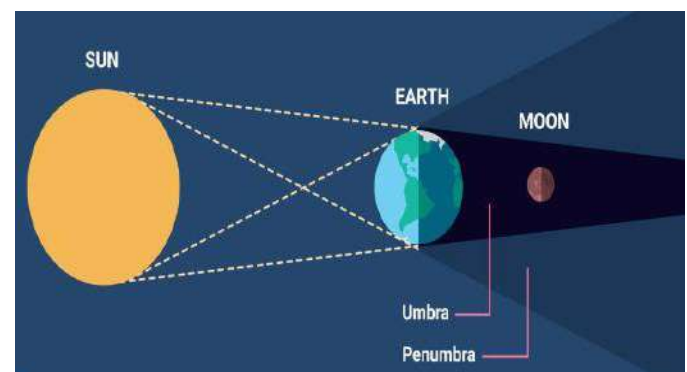
Solar Eclipse

- **Solar Eclipse** – A [solar eclipse](#) takes place when the Moon moves in the middle of Earth and the Sun.
- The Moon blocks the light of the Sun, either fully or partially, which casts a huge shadow on some parts of the world.
- A solar eclipse happens on a new moon day.
- There are four different types of solar eclipses, including total solar eclipse, annual solar eclipse, partial solar eclipse, and hybrid solar eclipse.



Lunar Eclipses

- [Lunar eclipses](#) occur at the full moon phase.
- When Earth is positioned precisely between the Moon and Sun, Earth's shadow falls upon the surface of the Moon, dimming it and sometimes turning the lunar surface a striking red over the course of a few hours.



12-04-2024

1) Consider the following statements with respect to the Prevention of Money Laundering Act (PMLA):

1. The PMLA was enacted in response to the political declaration adopted by the special session of the United Nations.
2. The Enforcement Directorate (ED) is the main agency probing allegations under PMLA.
3. Section 45 of the PMLA provides for bail on money laundering charges.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

2) Consider the following statements with respect to CDP-Suraksha:

1. It is a platform to provide subsidies to farmers in their bank account by utilising the e-RUPI voucher.
2. The e-RUPI voucher is provided by the National Payment Corporation of India (NPCI).

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

3) Consider the following statements:

1. Time ticks slightly slower on Moon than on Earth.
2. Coordinated Universal Time (UTC) is set by the International Bureau of Weights and Measures.
3. The 24 hour time standard in Earth is measured using atomic clocks.

How many of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. All three

d. None of the above

4) Consider the following statements with respect to the Muria Tribes:

1. They have been awarded the Scheduled Tribe status in Rajasthan.
2. They are also known by the name, Gutti Koyas.
3. The most important fair celebrated by Koyas is the Sammakka Saralamma Jatra.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

5) Consider the following statements with respect to Curative Petition in India:

1. It is a petition which requests the court to review its own decision.
2. A curative petition is supported by Article 137 of the Constitution of India.
3. A curative petition needs to be made within 30 days from the date of the judgement passed.

How many of the above statement(s) is/are **incorrect**?

- a. Only one
- b. Only two
- c. All three
- d. None of the above

Answers

1. c

Bail Provisions in PMLA Act

A trial court in Delhi denied interim bail to Bharat Rashtra Samithi (BRS) leader K Kavitha in the Delhi excise scam case.

- The [PMLA](#) was enacted in response to the political declaration adopted by the special session of the [United Nations General Assembly](#) held on June 8 and 10, 1998.

- The special session called on member states to put in place national anti-money laundering legislation.
- **Aim** – The main focus of the PMLA is
 - To prevent money-laundering
 - To provide for confiscation of property derived from or involved in money-laundering.
 - The **Enforcement Directorate (ED)** is the main agency probing allegations under PMLA.
- **Bail Provisions**
 - **Section 45** – Section 45 of the PMLA provides for bail on money laundering charges.
 - **UAPA** – This provision in the law, like the stringent bail standard in the Unlawful Activities (Prevention) Act, 1967 (UAPA), puts the onus on the accused to prove that there is no prima facie case against them while seeking bail.
 - **Section 45(1)** – No person accused of an offence under this Act shall be released on bail or on his own bond unless:
 - The Public Prosecutor has been given an opportunity to oppose the application for such release.
 - Where the Public Prosecutor opposes the application, the Court is satisfied that there are reasonable grounds for believing that he is not guilty of such offence and that he is not likely to commit any offence while on bail.
 - **Crucial Exception** – However, there is a crucial exception to the bail standard.
 - Provided that a person, who is under the age of sixteen years or is a woman or is sick or infirm (not physically or mentally strong), may be released on bail, if the Special Court so directs.
 - This exception is similar to exemptions under the Indian Penal Code for women and minors.
 - **Preeti Chandra vs Directorate of Enforcement, June 14, 2023** – The court added a qualifier that the accused cannot be a flight risk or tamper witnesses to be eligible for bail.
 - Flight risk corresponds to someone who has been accused of a crime and is considered likely to try to escape out of the country before their trial begins.
 - Thus it requires the accused to not be a flight risk, likely to tamper with evidence, or likely to influence witnesses.

2. c

CDP-Suraksha

The government has come up with a new platform to disburse subsidies to horticulture farmers under the Cluster Development Programme (CDP), the Centre's initiative to promote horticulture crops.

- The CDP-SURAKSHA is essentially a digital platform.
- **SURAKSHA** – System for Unified Resource Allocation, Knowledge, and Secure Horticulture Assistance.
- The platform will allow an instant disbursement of subsidies to farmers in their bank account by utilising the e-RUPI voucher from the National Payments Corporation of India (NPCI).
- The CDP-SURAKSHA has features such as:
 - Database integration with PM-KISAN, cloud-based server space from NIC, UIDAI validation, eRUPI integration, local government directory (LGD), content management system, geotagging, and geo-fencing.
- **Working** – The platform allows access to farmers, vendors, implementing agencies (IA), and cluster development agencies (CDAs), and officials of the National Horticulture Board (NHB).
 - A farmer can login using their mobile number and place an order for planting material such as seeds, seedlings, and plants based on their requirement.
 - Once the demand has been raised by the farmer, the system will ask them to contribute their share of the cost of planting material.
 - The subsidy amount paid by the government will appear on the screen automatically.
 - After the farmer pays their contribution, an e-RUPI voucher will be generated.
 - This voucher will then be received by a vendor, who will provide the required planting material to the farmer.
- **Difference** – In the old system, a farmer had to buy planting materials on their own.
 - They would then have to approach the officials concerned for the release of the subsidy.
 - The CDP-SURAKSHA platform, however, will provide subsidies to farmers upfront, at the time of purchasing the planting material.

- Vendors, who will supply planting materials to farmers, will receive their payment only after farmers verify the delivery of their orders.
- **e-RUPI** – The CDP-SURAKSHA platform uses e-RUPI vouchers from the NPCI.
- The voucher is a one-time payment mechanism that can be redeemed without a card, digital payments app or internet banking access, at the merchants accepting e-RUPI.
- According to the NPCI, the e-RUPI can be shared with the beneficiaries for a specific purpose or activity by organisations or government via SMS or QR code.

3. b

Lunar Time Standard

NASA has been asked to create a time zone for the moon.

- As there is less gravity on the Moon, time ticks slightly faster there relative to the time on the Earth (58.7 microseconds faster every day, compared to the Earth).
- Earth Standard Time is also known by the name, Coordinated Universal Time (UTC).
- It is set by the International Bureau of Weights and Measures in Paris, France.
- **Atomic Clocks** – This 24-hour time standard is kept using highly precise atomic clocks combined with the Earth's rotation.

4. a

Muria Tribals

The Muria Tribals lack access to primary education, safe drinking water, and social welfare benefits.

- **Location** – They are concentrated in the states of Telangana, Andhra Pradesh, Chhattisgarh, and Odisha.
- **Internally Displaced People (IDPs)** – The Muria settlements are known as habitations of Internally Displaced People (IDPs).
- **Population** – Their population is around 6,600 in Andhra Pradesh.
- **Other Name** – The Murias are referred to as 'Gutti Koyas' by the native tribes.
- **Language** – They speak Koya, which is Dravidian language.
- **Festival** – The most important fair celebrated by Koyas is the Sammakka Saralamma Jatra.

- It is celebrated once in two years on full moon day of the Magha Masam (January or February).
- **Agriculture** – They practice Podu form of shifting cultivation.
- **Status** – The held ST status in Chattisgarh but they were not granted ST status in their migrated states such as Telangana.

5. d

Curative Petition

SC quashes Rs.7687-crore arbitral award against Delhi Metro's DAMEPL as patently illegal.

- **Curative Petition** – A [curative petition](#) is a petition which requests the court to review its own decision even after a review petition is dismissed.
- Curative Petitions are the final remedy where the SC can reconsider a dismissed review petition.
- **Rupa Hurra Case** – In 2002, in **Rupa Hurra vs Ashok Hurra**, the SC allowed curative writs as the last resort to correct judgments that are oppressive to judicial conscience and would cause perpetuation of irreparable injustice.
- They held that the Supreme Court could entertain a curative petition under the following grounds:
 1. Violation of principles of natural justice,
 2. Question of bias against the presiding judge,
 3. Abuse of the process of the court.
- **Procedure** – A curative petition is supported by Article 137 of the Constitution of India.
- As per the article, in matters of law and regulations made under Article 145, the Supreme Court has the power to review any judgements or orders made by it.
- A curative petition needs to be made within 30 days from the date of the judgement passed.
- **Criteria** –
 1. A petitioner can file a curative petition only if the review petition has been dismissed.
 2. It is also required from the petitioner to state or assert specifically the grounds on which the review petition was

undertaken and that it was dismissed by circulation, which is in turn certified by a senior advocate.

3. A curative petition is entertained if it has been established that there has been a violation of the principles of natural justice.
4. Additional grounds of considering the petition is that he/she was not heard by the court when passing the judgement.
5. The curative petition is circulated to a Bench consisting of the three senior-most judges, and the judges who had passed the original sentence if possible.
6. When and only a majority of the judges decided that the matter needs a hearing, can the petition be listed before the same Bench.
7. Should a request for an open-court hearing be made, then such a hearing is allowed, but a curative petition is usually decided by judges in the chamber.
8. If the petition lacks any grounds for reasonable consideration then the court could impose "exemplary costs" on the petitioner.

- c. World Bank
- d. International Monetary Fund (IMF)

3) Consider the following statements with respect to the GPT-4 Vision:

1. It allows users to upload an image as input and ask a question about it.
2. It works on the principle of Large Multimodal Model (LMM).

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statement with respect to Sulthan Bathery:

1. It corresponds to the tank built by Tipu Sultan and is located in Karnataka.
2. It is categorised as a site of cultural importance by the Archeological Survey of India (ASI).

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Consider the following statements with respect to Volcanic Vortex Rings:

1. Vortex rings are generated when gas, predominantly water vapour, is released rapidly through a vent in the crater.
2. Volcanic Vortex Rings are observed only in Mount Etna in Italy.

Which of the above statement(s) is/are **incorrect**?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

13-04-2024

1) Consider the following statements with respect to Madrasas:

1. It is an institution of higher education in the Islamic sciences.
2. Madrasas originated in India during the reign of Alauddin Khalji.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Which of the following organisation released the Global Trade Outlook and Statistics report?

- a. World Trade Organisation (WTO)
- b. United Nations Conference on Trade and Development (UNCTD)

Answers

1. a

Madrasas

The Supreme Court stayed an Allahabad High Court order, which had declared the Uttar Pradesh Board of Madrasa Education Act, 2004, as unconstitutional.

- **Madrasas** – [Madrasas](#) are institution of higher education in the Islamic sciences.
- In Arabic-speaking countries, the word in modern times refers to any institution of education, especially primary or secondary education.
- The early madrasas developed out of occasional lectures delivered at mosques.
- Khan lodgings were later adjoined to mosques for students who traveled to participate.
- The origin of these madrasas are traced back to Khurasan and Transoxania in the 10th century, as well as in the region now known as northern Iran.
- By the end of the 12th century, madrasas flourished in Damascus, Baghdad, Mosul, and most other Muslim cities.
- The madrasah functioned until the 20th century as a theological seminary and law school, with a curriculum centred on the Quran and the Hadith.
- Arabic grammar and literature, mathematics, logic, and, in some cases, natural science were studied in madrasahs in addition to Islamic theology and law.
- Tuition was free, and food, lodging, and medical care were provided as well.
- Instruction usually took place in a courtyard and consisted primarily of memorizing textbooks and the instructor's lectures.
- The lecturer issued certificates (ijazat; singular, ijazah) to his students that constituted permission to repeat his words.

2. a

Global Trade Outlook and Statistics

Global goods trade is expected to pick up gradually this year following a contraction in 2023: the World Trade Organization (WTO).

- **Released By** – [World Trade Organisation \(WTO\)](#).

- The report indicates primary signs of fragmentation in trade flows.
- **Findings** – An evident recovery in the demand for tradable goods is already observable in 2024.
- The trade scenario appears more positive on the services side, with a 9% increase in commercial services exports to \$7.54 trillion, partially counterbalancing the decline in goods trade.
- Global GDP growth at market exchange rates will hover around 2.6% in 2024 and 2.7% in 2025, marking a slight deceleration from 3.1% in 2022 to 2.7% in 2023.
- With geopolitical tensions affecting trade patterns marginally, the report says the global trade in non-fuel intermediate goods, which provides a useful gauge of the status of global value chains, was down 6%.
- High energy prices and persistent inflation have adversely impacted the demand for manufactured goods, leading to a 1.2% drop in the volume of world merchandise trade for 2023.
- This decline is more pronounced in value terms, with merchandise exports decreasing by 5% to \$24.01 trillion.
- **India** – India's goods exports stood at \$451 billion in FY23 and \$394.99 billion in FY24 so far (April-February).
- The country's share in global goods exports and imports stood at 1.8% and 2.8% in 2023, respectively.

3. c

GPT-4 Vision

OpenAI's ChatGPT has evolved by leaps and bounds, now churning text is not the only function, it can also create images from natural language prompts.

- **GPT-4V** – [GPT-4](#) with Vision, also referred to as GPT-4V, allows users to instruct GPT-4 to analyse image inputs.
- GPT-4 Vision has been considered OpenAI's step forward towards making its chatbot multimodal, an AI model with a combination of image, text, and audio as inputs.
- It allows users to upload an image as input and ask a question about it.
- This task is known as visual question answering (VQA).

- **LLM** – GPT-4 Vision is a Large Multimodal Model (LMM).
- LLM is essentially a model that is capable of taking information in multiple modalities like text and images or text and audio and generating responses based on it.
- It is not the first and only LMM, there are many others such as CogVLM, LLaVA, Kosmos-2, etc.
- LMMs are also known as Multimodal Large Language Models (MLLMs).
- **Capabilities** – GPT-4 Vision has some groundbreaking capabilities such as processing visual content including photographs, screenshots, and documents.
- The latest iteration allows it to perform a slew of tasks such as identifying objects within images, and interpreting and analysing data displayed in graphs, charts, and other visualisations.
- GPT-4 Vision can also interpret handwritten and printed text contained within images.
- This is a significant leap in AI as it, in a way, bridges the gap between visual understanding and textual analysis.
- **Limitations** – The model is not suitable for interpreting specialized medical images like CT scans and shouldn't be used for medical advice.
- The model may not perform optimally when handling images with text of non-Latin alphabets, such as Japanese or Korean.
- Enlarge text within the image to improve readability, but avoid cropping important details.
- The model struggles with tasks requiring precise spatial localization, such as identifying chess positions.

4. d

Sulthan Bathery

BJP demands renaming Sulthan Bathery in Wayanad to Ganapathivattom.

- **Sulthan Bathery** – It is a municipal town in Wayanad, Kerala.
- **Temple** – Sulthan Bathery has a stone temple that was once known as Ganapathivattam.
- The temple, built in the prevalent architectural style of [the Vijayanagar dynasty](#), was constructed by Jains who migrated to Wayanad

from areas in present-day Tamil Nadu and Karnataka in the 13th century.

- **Tipu Sultan** – The temple was partly destroyed by [Tipu Sultan](#).
- Between 1750 and 1790, today's northern Kerala was invaded several times by the rulers of Mysuru, Hyder Ali and his son Tipu.
- Tipu Sultan used the Maha Ganapathy temple in Sulthan Bathery as a battery or store for weapons for his army in the Malabar region (today's North Kerala, including Wayanad).
- This led to the British recording Ganapathivattam as Tipu Sultan's Battery, and the name survived as Sulthan Bathery.

5. b

Volcanic Vortex Rings

Mount Etna, one of the most active volcanoes in the world, is known for the volcanic vortex ring phenomenon.

- Vortex rings are generated when gas, predominantly water vapour, is released rapidly through a vent in the crater.
- The vent that has opened up in Etna's crater is almost perfectly circular, so the rings that have been seen above the mountain since April 2 are also circular.
- The phenomenon was first observed at Etna and Vesuvius in Italy in 1724, and has been documented in an engraved plate from 1755.
- In more recent times, volcanic vortex rings have been observed at volcanoes such as Redoubt in Alaska, Tungurahua in Ecuador, Pacaya in Guatemala, Eyjafjallajökull and Hekla in Iceland, Stromboli in Italy, Aso and Sakurajima in Japan, Yasur in Vanuatu, Whakaari in New Zealand, and Momotombo in Nicaragua.
- Volcanic smoke rings were produced in the same way as dolphins blow bubble rings.
 - Dolphins compress the water in their mouths, and using their tongue they push it out of their mouths and create such a pressure that it forms a ring.
- The rings can remain in the air for up to 10 minutes, but tend to disintegrate quickly if conditions are windy and turbulent.

17-04-2024

1) Consider the following statements with respect to Carbon-Carbon (C-C) nozzle

1. It is a lightweight Carbon-Carbon (C-C) nozzle developed by Defence Research and Development Organisation (DRDO).
2. Nozzles made up of columbium alloy can increase the payload capacity in PSLV rockets by 15kg.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) The recent report of Global Forest Watch monitoring project says that India has lost 2.33 million hectares (6%) of tree cover since 2000. The Global Forest Watch was established by ?

- a. World Bank
- b. World Resources Institute (WRI)
- c. World Wildlife Fund (WWF)
- d. United Nations Environment Program (UNEP)

3) Consider the following statements with respect to Bhandasar Jain Temple

1. It is constructed by the wealthy Jain merchant Bhandasa Oswal in Rajasthan.
2. This temple is dedicated to the 5th Tirthankara, Sumatinatha.
3. It is recently recognized as a World Heritage Site by the UNESCO.

Which of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. Only three
- d. None

4) Consider the following statements with respect to Thiruvalluvar

1. His family history, religion, or location of birth are all unknown certainties.
2. In 1935, the Tamil Nadu government officially recognized 31 BCE as the year of Valluvar.

3. Thirukkural written by Thiruvalluvar is one of the Patiren-kirkkanakku in Tamil literature.

Which of the above statement(s) is/are correct?

- a. Only one
- b. Only two
- c. Only three
- d. None

5) Consider the following statements with respect to Men5CV Vaccine

1. It protects people against 5 strains (A, C, W, Y and X) of the meningococcus bacteria.
2. It is not yet recommended by the World Health Organization (WHO).

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. d

Carbon-Carbon (C-C) nozzle

- It is a lightweight Carbon-Carbon (C-C) nozzle to enhance the vital parameters of rocket engines.
- **Developed by** - Indian Space Research Organisation (ISRO).
- Polar Satellite Launch Vehicle (PSLV)-4 currently employs twin engines with nozzles made from **Columbium alloy**.
- By replacing the engines with C-C nozzle , a mass reduction of approximately 67% can be achieved.
- This substitution is projected to increase the payload capability of the **PSLV by 15 kg**.

2. b

Global Forest Watch (GFW)

- It is an online platform that provides data and tools for monitoring forests.

- It is established by **World Resources Institute (WRI)**, launched in **1997**.
- GFW uses cutting-edge technology that allows anyone to access near real-time information about where and how forests are changing around the world.

3. b

Bhandasar Jain Temple

- The Bhandasar Jain Temple is a **temple made of ghee**, situated in **Bikaner, Rajasthan**.
- It was constructed by the wealthy Jain merchant **Bhandasa Oswal**.
- This temple is dedicated to the **5th Tirthankara, Sumatinatha**.
- It is protected by the **Archaeological Survey of India**.

4. c

Thiruvalluvar

- Thiruvalluvar, a revered ancient saint, poet, and philosopher with no caste or religion, has been regarded as a Tamil cultural and moral icon.
- **Historicity - His family history, religion, or location of birth are all unknown certainties.**
- The period during which he lived is debated.
- **Thirukkural** - The 'Thirukkural' or 'Sacred Couplets', a collection of moral aphorisms in verse that is attributed to Thiruvalluvar, does not name him as its author.
- He is named first in a later collection of verses known as 'Thiruvalluva Malai'.
- In 1935, the Tamil Nadu government officially recognized **31 BCE as the year of Valluvar**.
- It is one of the **Patiren-kirkkanakku ("Eighteen Ethical Works") in Tamil literature**.

5. a

Men5CV Vaccine

Nigeria has become the 1st country in the world to roll out a new vaccine (called Men5CV) against meningitis.

- It protects people against 5 strains (A, C, W, Y and X) of the **meningococcus bacteria**.
- It was recommended by the **World Health Organization (WHO)**.

- The vaccine and emergency vaccination activities are funded by Gavi, the Vaccine Alliance.

Nigeria is one of the 26 meningitis hyper-endemic countries of Africa, situated in the area known as the African Meningitis Belt.

18-04-2024

1) Consider the following statements with respect to Salas y Gomez

1. Salas y Gomez is an oceanic ridge in the Southeastern Pacific Ocean.
2. Ecosystems in Salas y Gómez and Nazca ridges region are isolated by the Atacama Trench.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) The Supreme Court judgement of "Supriyo Vs Union of India case" is related to?

- a. Challenge to the practice of Jallikattu
- b. Rights to Queer Community
- c. 100% VVPAT verification for EVM votes
- d. Abrogation of Article 370

3) Consider the following statements with respect to soil acidification

1. Soil acidification is a process where the pH level of the soil increases, making it more acidic.
2. Soil acidification affects only the surface soil (Top soil) and not subsoil.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements with respect to Green Credit Programme

1. Centre must rely on to calculate what it would cost to restore a degraded forest landscape.
2. The green credits will be tradable and be made available for trading on a domestic market platform.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

5) Consider the following statements with respect to Ringwoodite

1. Ringwoodite is a mineral comes from olivine (another mineral) that exists in the Earth's transition zone.
2. It absorbs water and hydrogen in all forms.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. c

Salas y Gomez

Scientists recently announced the discovery of 160 marine species in the Salas y Gomez ridge.

- Salas y Gomez is an oceanic ridge in the **Southeastern Pacific Ocean**.
- Ecosystems in Salas y Gómez and Nazca ridges region are isolated by the **Atacama Trench, the Humboldt Current System, and an extreme oxygen minimum zone**.

2. b

Supriyo Vs Union of India case

- The petitioners challenged the validity of Section 4 (c) of the Special Marriage Act, 1954 on that ground that the provision discriminates

against same sex couple by denying them benefits such as adoption, surrogacy, employment and retirement benefits.

3. a

Soil Acidification

A recent study says that Soil Acidification may strip Indian soils of 3.3 billion tonnes of essential carbon, affecting crop growth, sequestration.

- Soil acidification is a process where the **pH level of the soil decreases, making it more acidic**.
- This process can affect both the surface soil and subsoil.

4. b

Changes in Green Credit Programme Norms

The Union Environment Ministry recently says that primacy must be accorded to restoring ecosystems over tree planting.

Recent changes

- The guidelines said that States must rely on to calculate what it would cost to restore a degraded forest landscape.
- The guidelines also changed the earlier requirement that there be a minimum of 1,100 trees per hectare to qualify as reforested landscape and left it to States to specify them.
- Preference would be given to indigenous species and naturally growing seedlings would be retained.
- The green credits will be tradable and be made available for trading on a domestic market platform.

5. a

Ringwoodite

- Ringwoodite is a fascinating mineral comes from olivine (another mineral) that exists in the Earth's transition zone.
- It has a unique crystal structure that allows it to absorb water and hydrogen, acting like a sponge but it can't absorb water in liquid, solid or gas form.

22-04-2024

1) "Umesh Sinha" committee often recently seen in news is related to which of the following?

- a. Centre-State relations
- b. Voluntary code of Ethics
- c. Disinvestment
- d. Banking Reforms

- 2. The indelible ink is applied on the voter's finger after he casts his vote by pressing a button on the Electronic Voting Machine (EVM).

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Consider the following pairs

Missiles	Purpose
Iron Dome	It is a Short range, Ground-to-air defence with Laser Controlled Fuse
David's Sling	It will intercepts threats with laser technology.
Iron Beam	It is a medium-range air defence system with advanced phased array radar.

5) Consider the following statements with respect to 4P model of India

- 1. The 4P's are Political leadership, Public financing, Partnerships and People's participation.
- 2. It came out of the Mahatma Gandhi International Sanitation Conference (MGISC) held in Delhi in October 2018.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

How many of the pair(s) given above is/are correct?

- a. Only one
- b. Only two
- c. All three
- d. None

3) Consider the following statements with respect to Pahariya Tribes

- 1. Pahariya tribes are the original inhabitants of the Rajmahal Hills, now known as the Santal Parganas.
- 2. They are listed as a Scheduled Tribe only by the government of Jharkhand.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

4) Consider the following statements with respect to Indelible Ink

- 1. The indelible ink contains potassium permanganate, which becomes visible when exposed to ultraviolet light, including sunlight.

Answers

1. b

Voluntary code of Ethics

X (formerly Twitter) recently announced that it withheld some posts on the orders of the Election Commission of India as it had agreed to the 'Voluntary Code of Ethics' for social media platforms.

- **Emergence** - Election commission (EC) set up a committee under Deputy Election Commissioner **Umesh Sinha** in 2019.
- The committee suggested changes to the Representation of People Act (RPA), 1951 (deals with conduct of Lok Sabha and state assembly elections) to cover social media posts in the 48-hour period (silence period) before polling, when conventional campaigning is banned.
- The Internet and Mobile Association of India, along with social media platforms, would go on to present code of ethics to the Election Commission in March 2019.

- After that the code extended to all elections in the future.
- The code says social media platforms will voluntarily undertake information, education and communication campaigns to spread awareness about elections, including about electoral laws.

2. a

Components of Israel's defence system	
The Arrow system	<ul style="list-style-type: none"> • It is a family of anti-ballistic missiles, capable of intercepting long-range missiles. • It is developed in collaboration with the US.
Arrow-3	<ul style="list-style-type: none"> • It has the capability of intercepting missiles outside the Earth's atmosphere and it was employed to intercept long-range missiles launched by the Houthi militia in Yemen. • The Houthis are believed to be backed by Iran.
The David's Sling (or Stunner)	<ul style="list-style-type: none"> • It is Israel's medium-range air defence system, which can intercept cruise missiles, ballistic missiles, and aircraft. • It also has an advanced phased-array radar for easier detection with a range of 300 kilometres.
Iron Dome	<ul style="list-style-type: none"> • It is Israel's indigenous short-range air defence system.
Patriot PAC-2 and PAC-3	<ul style="list-style-type: none"> • These are air defence systems that can intercept a range of missiles and target aircraft and drones made by the U.S.
F-16 and F-35	<ul style="list-style-type: none"> • These fighter jets play a major role in air defence, being equipped with air-to-air missiles.
Iron Beam	<ul style="list-style-type: none"> • Israel is developing it to intercept incoming threats with laser technology. • It is yet to be fully operational.

3. a

Pahariya Tribes

Jharkhand's Pahariya tribe aims to achieve seed independence by depositing native varieties in community-led banks.

- The name Paharia is believed to have been derived from the word Pahar meaning hills.
- **History**- Pahariya tribes are the original inhabitants of the Rajmahal Hills, now known as the **Santal Parganas**.
- They finds mentioned in Megathenes' book as well as Hiuen Tsang's travelogue.
- **Habitat** - They live mainly in the states of Jharkhand and West Bengal.
- There are also scattered groups of them in Uttar Pradesh, Maharashtra and Odisha.
- **Cultivation** - They practise Jhum or shifting cultivation.
- **Language** - They predominantly speak **Malto language**, Dravidian language.

4. d

Indelible ink

- **About** - The indelible ink is devised to prevent a person from casting more than one vote, has been used in Indian elections for long.
- It also travelled to other parts of the world to be used in other elections.
- **The process** - Once a voter has her credentials checked at the polling booth, and **before she casts her vote** by pressing a button on the Electronic Voting Machine (EVM), the indelible ink is applied on her finger.
- **Making** - Indelible ink **contains silver nitrate**.
- It is a colourless compound **which becomes visible when exposed to ultraviolet light, including sunlight**.
- The higher silver nitrate's concentration, say around 20%, the higher will be the ink's quality.
- It can remain resistant to soap, liquids, home-cleansing, detergents, etc for **up to 72 hours after application**.
- This water-based ink also contains a solvent like alcohol to allow its faster drying.

- **Maker of the indelible ink-** The indelible ink was first manufactured at the Election Commission's request by the government's Council of Scientific & Industrial Research (CSIR).
- Mysore Paints & Varnish Ltd. has been licensed to manufacture the ink and has been in the business since 1962.
- It is exported to more than 25 countries that include Canada, Ghana, Nigeria, Mongolia, Malaysia, Nepal, South Africa and the Maldives.

5. c

India's 4P Model

- **4P model** - Political leadership, Public financing, Partnerships and People's participation.
- It came out of the Mahatma Gandhi International Sanitation Conference (MGISC) held in Delhi in October 2018.

24-04-2024

1) Consider the following statements with respect to Sustainable Finance for Tiger Landscapes Conference

1. It aims to mobilise 1 billion USD over 10 years for the preservation of tiger landscapes.
2. The conference is being co-organised by India and the Tiger Conservation Coalition.

Which of the statement(s) given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) *Nitroplast*, sometimes seen in the news recently, refers to?

- a. An element that is capable of superconductivity.
- b. A type of nitrogen gas that is used to control oxygen levels, humidity and temperature in industries.
- c. An organelle that has the ability to fix nitrogen from the atmosphere.
- d. A type of denitrifying bacteria that reduces the amount of fixed nitrogen.

3) Consider the following pairs.

Ports	Countries
1. Shahid Behest	– Egypt
2. Matarbari	– Bangladesh
3. Baltimore	– United States
4. Port Said	– Iran

How many of the pair(s) given above is/are correctly matched?

- a. Only one
- b. Only two
- c. Only three
- d. All four

4) With reference to the State of the Climate in Asia report, 2023, consider the following statements.

1. The report was released by the Asia Pacific Adaptation Network (APAN).
2. The Asian continent was the world's least disaster-prone region in 2023.
3. Floods and storms caused the highest number of reported casualties and economic losses in Asia.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

5) Consider the following pairs.

Species in news	Objectives
1. Golden Trevally	– A high value marine fish
2. Neptis Philyra	– A Rare butterfly species
3. Vasuki Indicus	– An ancient snake species
4. Bumblebee	– A Pleistocene era ant species

How many of the pair(s) given above is/are correctly matched?

- a. Only one

- b. Only two
- c. Only three
- d. All four

Answers

1. a

Sustainable Finance for Tiger Landscapes Conference

A Sustainable Finance for Tiger Landscapes Conference is all set to be hosted by Bhutan to mobilise the funding.

- **Co-organised by –** The **Royal Government of Bhutan** and the **Tiger Conservation Coalition**.
- **Aim –** To mobilise **1 billion USD over 10 years** for the preservation of tiger landscapes.
- **Necessity –** Maintaining tiger landscapes are vital to maintaining biodiversity, sequestering carbon, supplying resources to over 100 million people and ensuring the overall health of the planet.

Tiger Conservation Coalition

- **It is a group of NGOs** that has worked for many years with partners to conserve tigers.
- The 10 NGOs in the coalition are:
 - Environmental Investigation Agency (EIA),
 - Fauna & Flora International (FFI),
 - International Union for Conservation of Nature (IUCN),
 - Natural State,
 - Panthera,
 - TRAFFIC,
 - United Nations Development Programme (UNPD),
 - Wildlife Conservation Society (WCS),
 - The World Wild Fund for Nature (WWF) and
 - The Zoological Society of London (ZSL).

2. c

Nitroplast

In a scientific breakthrough, an international team of researchers has recently discovered the “Nitroplast”.

- Nitroplast is the newly discovered **nitrogen-fixing organelle** found **within eukaryotic cells**.
- It has the **ability to fix nitrogen from the atmosphere**.
- It allows algae to convert atmospheric nitrogen into usable forms, a critical step for growth.
- Traditionally, nitrogen fixation was seen as a prokaryotic (bacteria and archaea) domain.
- Nitroplast discovery disrupts this notion, highlighting the fluidity of evolution.
- **Benefits –** Understanding nitroplasts could revolutionize agriculture.
- By incorporating nitrogen-fixing genes into crops, scientists envision plants that don't rely on fertilizers and can reduce the environmental impact.

3. b

Ports in News

- **Shahid Beheshti and Shahid Kalantari –** These are two distinct ports in the Chabahar project, in **Iran**.
- Chabahar, which sits at the mouth of the Gulf of Oman, is Iran's first deepwater port that puts the country on the global oceanic trade route map.
- **Matarbari Port –** It is a deep-sea port under construction in **Bangladesh's** Cox's Bazar District, south of Chattogram Port and north of Sonadia on the Bay of Bengal.
- The port is a joint development project between **India and Japan**, and is expected to be operational in 2027.
- **Baltimore Port –** A ship that hit Baltimore Bridge recently was 'unseaworthy' when it left the Baltimore port in **USA**.
- **Port Said –** It is located in northeastern **Egypt**, at the northern end of the Suez Canal.

4. a

State of the Climate in Asia report, 2023

The State of the Climate in Asia report, 2023 was recently released by the World Meteorological Organization (WMO).

- The report highlights how climate change impacts are wreaking an ever-increasing human, financial and environmental toll, worsening food insecurity and poverty.

Key highlights of the report

- **Heatwaves** and their impacts on water resources will increase manifold in the near future.
- **Shrinking water resources** can lead to conflict situations within a country, endangering national security.
- The Asian continent was the **world's most disaster-prone region in 2023**.
- *Southwest China* suffered a drought, and below-normal precipitation levels were recorded nearly every month of 2023, with rains linked to the *Indian* summer monsoon being below average.
- **Floods and storms caused the highest number of reported casualties and economic losses in Asia**, while the impact of heatwaves became more severe.
- Over 80% of reported hydro-meteorological hazards in Asia were flood and storm events in 2023.
- **Sea level rise** – In the Bay of Bengal off India's eastern coast was the second-highest in the region last year, being nearly 30 per cent above the global average.
- **Surface temperature** – The annual mean near-surface temperature over Asia in 2023 was the *second-highest* on record.
- **Sea surface temperature** – The sea surface temperature in the areas of the Kuroshio Current system the Arabian Sea and so on were *warmer more than three times faster than the globally averaged* sea surface temperature.
- **High Mountain Asia region** – Centred on the Tibetan Plateau and containing the largest volume of ice outside of the Polar Regions with glaciers is *under threat*.
- Over the last several decades, most of these glaciers have been retreating, and at an accelerating rate (with) 20 out of 22 observed glaciers in the High Mountain Asia region. **Precipitation** – Was below normal in 2023 across almost the entire Asian region.
- The report emphasizes the *need for robust climate finance mechanisms* to scale up adaptation and address loss and damage in developing countries of Asia.

5. c

Species in News

- **Golden trevally** – The researchers of the ICAR-Central Marine Fisheries Research Institute (CMFRI) has succeeded in captive breeding of golden trevally (*Gnathanodon speciosus*).
- It is a **high value marine fish**.
- **Neptis philyra** – It is a **rare butterfly species** that was discovered in Arunachal's Tale sanctuary.
- It is commonly known as *long-streak sailor*, has been discovered for the first time in India in Tale Valley Wildlife Sanctuary in Lower Subansiri district of Arunachal Pradesh.
- **Vasuki Indicus** – It is a 47 million years **old ancient snake** discovered in Gujarat.
- Vasuki Indicus is *believed to have been one of the largest snakes ever*, with an estimated length ranging from 11 to 15 meters.
- The snake belonged to the extinct *madtsoiidae family*, which existed for around 100 million years across various regions including Africa, Europe and India.
- Vasuki Indicus's size is comparable to that of *Titanoboa*, the longest known snake to have ever lived.
- **Eastern Bumblebee** – Scientists have revealed queens of the common eastern bumblebee, a **bee species** widespread in eastern North America.
- A pollinator of flowers and numerous fruit and vegetable crops.
- It can **withstand submersion** for up to a week when hibernating.
- It could *help them survive flooding* in the wild.

25-04-2024

1) Consider the following statements with respect to Blackbuck

1. Blackbuck is the best example of a solitary animal.
2. They are mainly sedentary, but in summer may move longer distances in search of water and forage.
3. It has been categorised as Least Concern under the Red List of Threatened Species.

How many of the statement(s) given above is/are correct?

- Only one
- Only two
- All Three
- None of the above

2) Consider the following statements with respect to the PMAY-U

Statement-I: It aims to provide all weather pucca houses to all eligible beneficiaries in the urban areas of the country.

Statement-II: It has addressed 75% of the housing shortage, which has resulted in declining urban housing shortage.

Select the correct answer using the codes given below:

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- Statement-I is correct but Statement-II is incorrect
- Statement-I is incorrect but Statement-II is correct

3) Consider the following statements with respect to Sympathetic Flares

- They originate from multiple eruptions occurs across the Sun's magnetic field.
- These are signs that the Sun is at the peak of its 11-year solar cycle, known as solar maximum.
- They are a consequence of coronal mass ejections (CMEs).
- If directed towards Earth, they have the capacity to disrupt terrestrial power grids, telecommunication networks and orbiting satellites.

How many of the statement(s) given above is/are correct?

- Only one
- Only two
- Only three

d. All four

4) Consider the following statements with respect to Ethylene Oxide

- It is a pesticide that has been classified as a Group 1 carcinogen by the International Agency for Research on Cancer.
- It is used by the spice industry as a fumigant to reduce microbial contamination.
- It is a colourless, highly flammable and very reactive gas that kills bacteria, viruses and fungi.

How many of the statements given above are correct?

- Only one
- Only two
- All Three
- None of the above

5) Which of the following statements is **incorrect** with respect to the Maximum residue limit (MRL) of Pesticides?

- The Food and Agriculture Organization (FAO) defines MRL as the highest legally tolerable level of pesticide in food or animal feed.
- The MRLs of pesticides for food and commodities are specified under the Food Safety and Standards (FSS) Act, 2006.
- The MRLs are fixed based on the field trial data received through the Central Insecticides Board and Registration Committee (CIBRC), Ministry of Agriculture and Family Welfare.
- MRL to food commodities besides spices and culinary herbs is also applicable under Codex Alimentarius.

Answers

1. b

Blackbucks (*Antilope cervicapra*)

- Blackbuck or *Antilope cervicapra* is also known as Indian Antelope.
- Distribution** – Formerly occurred across almost the whole of the Indian subcontinent south of the Himalaya.

- Their range decreased during the 20th century and they are now **extinct in Bangladesh and Pakistan**.
- Blackbuck require water daily, which restricts its distribution to areas where surface water is available for the greater part of the year.
- *They are mainly sedentary, but in summer may move longer distances in search of water and forage.*
- **Type** – Blackbucks are gregarious and social animals with herds.
- **Communication** – They use a wide variety of sounds as a means of communication.
- For instance, they use *dik-diks whistle*, which represent warning or anxiety.
- **Increase in population** – They are increasing in many protected areas and areas dominated by Vishnoi communities in Rajasthan and Haryana.
- Conversion of dense scrub and woodland to grassland and agriculture also increases the area of suitable habitat.
- **Social animal** – Blackbucks are social animals, living in herds that include from 5 to 50 individuals and **not a best example of a solitary animal**.
- **Conservation Status**
 - IUCN – Least Concern
 - WPA – Schedule I
 - CITES – Appendix III
- The scheme covers the entire urban area of the country, i.e., all statutory towns as per *Census 2011* and towns notified subsequently, including Notified Planning/ Development Areas.
- The scheme is being implemented through 4 verticals:
 1. Beneficiary Led Construction/ Enhancement (BLC)
 2. Affordable Housing in Partnership (AHP) with public and private sectors
 3. In-situ Slum Redevelopment (ISSR)
 4. Credit Linked Subsidy Scheme (CLSS)
- In 2022, the *Union Cabinet approved continuation of PMAY-U up to December 2024* with all verticals, except CLSS, for the completion of already sanctioned houses till 31st March 2022.
- All houses under PMAY-U have basic amenities like toilet, water supply, electricity and kitchen.
- *The Mission promotes women empowerment* by providing the ownership of houses in name of female member or in joint name.
- Preference has also been given to differently abled persons, senior citizens, SCs, STs, OBCs, Minority, single women, transgender and other weaker & vulnerable sections of the society.
- According to the Indian Council for Research on International Economic Relations (ICRIER), **urban housing shortage increased** by 54%, making the PMAY-U has actually faltered.

2. c

Pradhan Mantri Awas Yojana-Urban (PMAY-U)

The current Union government have recently completed two terms, one of its flagship programmes was Housing for All (HfA) by 2022, both in urban and rural areas, planned under the PMAY scheme in 2015.

- PMAY is a **centrally sponsored scheme**, both the Union and the State governments are supposed to financially contribute to it.
- Pradhan Mantri Awas Yojana-Urban (PMAY-U), was started in 2015, under *Ministry of Housing and Urban Affairs (MoHUA)*.
- It aims to provide **all weather pucca houses to all eligible beneficiaries in the urban areas** of the country through States/UTs/Central Nodal Agencies.

- According to another report by Newslandry, **the PMAY-U has only addressed a 25.15% of the housing shortage** by delivering 80 lakh homes.

3. d

Sympathetic Flares

The sight of “sympathetic solar flares” in different regions of the Sun was recently captured by NASA’s Solar Dynamics Observatory.

- **Sympathetic flares are caused by multiple eruptions across the Sun’s magnetic field, connected by huge loops above the solar surface.**
- When one flare happens, others tend to follow.
- When one spot detonates, others follow suit.

- ***This leads to coronal mass ejections (CMEs) and massive bursts of plasma.***
- These flares are signs that the Sun is at the peak of its 11-year solar cycle, known as solar maximum. During this time, solar events like flares and CMEs become more frequent.
- Most of the time, these sympathetic flares involve two linked flares, ranging from small to very powerful X-class flares. But when four flares happen together, it's called a "super-sympathetic" event.
- ***If directed towards the Earth, they have the potential to disrupt power grids, telecommunication networks and orbiting satellites*** and expose astronauts to dangerous doses of radiation.

4. c

Ethylene Oxide

Recently, a report published by the Hong Kong's food regulatory authority, Centre for Food Safety (CFS) have mentioned that three spice products in India have cancer-causing chemicals that contain a pesticide known as ethylene oxide.

- Ethylene oxide is a pesticide that has been classified as a Group 1 carcinogen by the International Agency for Research on Cancer.
- It is used by the spice industry as a fumigant to reduce microbial contamination, such as E. coli and Salmonella.
- It is a colourless, highly flammable and very reactive gas that kills bacteria, viruses and fungi.
- It is an industrial chemical and can damage DNA during sterilisation procedures.
- FSSAI has started sampling the products while Spice Board of India is also investigating the ban imposed by Hong Kong and Singapore.
- According to the Centre for Food Safety (CFS), Hong Kong's food regulatory authority, three spice products from two big Indian companies have exceeded the permissible limit of chemicals.
- *There is no immediate risk to consuming foods with low levels of ethylene oxide.*
- But the carcinogenic properties of this pesticide may trigger cancer cells on prolonged consumption and may lead to health hazards in the long run.
- Use of Ethylene oxide in species can lead to chronic and persistent exposure over time and

has been linked to an increased risk of cancers like leukemia, stomach cancer and breast cancer.

- It can even lead to respiratory irritation and lung injury, headache, nausea, vomiting, diarrhoea and shortness of breath.
- *India is the world's largest producer, consumer and exporter of spices.*

The International Agency for Research on Cancer (IARC)

- It is a specialized cancer agency of the World Health Organization (WHO).
- It was established in 1965 by a resolution of the World Health Assembly.
- The IARC and the Joint Organization Expert Committee on Food Additives (JECFA) are both groups of the WHO.

5. b

Maximum residue limit (MRL) of Pesticides

The Food Safety Standards Authority of India (FSSAI) have recently increased the Maximum Residue Limit (MRL) of pesticides in herbs and spices from 0.01 milligrammes per kilogramme (mg / kg) to 0.1 mg / kg.

- The Food and Agriculture Organization (FAO) defines Maximum residue limit (MRL) as the highest legally tolerable level of pesticide in food or animal feed.
- The MRLs of pesticides for food and commodities, including spices and culinary herbs, are specified under the **Food Safety and Standards (Contaminants, Toxins and Residues) Regulation, 2011.**
- **Central Insecticides Board and Registration Committee (CIBRC) – These MRLs are fixed based on the field trial data received through the CIBRC**, Union Ministry of Agriculture and Family Welfare.
- CIBRC does not conduct field trials of pesticides. The manufacturing companies generally provide the data, which is reviewed by CIBRC to approve pesticides.
- The CIBRC never sets any limits on residues.
- *There is no declared procedure of using this data to fix MRLs.*
- If the pesticide is not registered with CIBRC, then the MRL of 0.1 mg / kg will be applicable for the spices and herbs.

- **Centre's Monitoring of Pesticide Residues at National Level (MPRNL) scheme** – For certain pesticides without field trial data available, the MRL was arrived at based on data generated by the Centre's Monitoring of Pesticide Residues at National Level (MPRNL) scheme.
- *But MPRNL does not have data on all pesticides and neither does it include spices in monitoring.*
- MPRNL scheme was started in 2005-06 by the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW), Ministry of Agriculture & Farmers Welfare.
- The scheme regularly monitors pesticide residues in food commodities and environmental samples, such as soil.
- The *All India Network Project on Pesticide Residues (AINP-PR)*, ICAR-Indian Agricultural Research Institute (ICAR) implements the scheme.
- The Information has been gathered through the provisions of the Right to Information Act, 2005, from the AINP-PR for the last five years.
- It indicates that the percentage of samples detected with the presence of residues has increased from 22.6 % in 2018-19 to 35.9 % in 2022-23.
- **Codex Alimentarius** – MRLs specified by [Codex Alimentarius](#), a collection of internationally adopted food standards, *are to be applied*.
- It was established by FAO and the World Health Organization in 1963.
- In the absence of Codex, regulating authorities in the country of export will specify the MRLs.
- **For food commodities besides spices and culinary herbs, MRL is applicable under Codex.**

26-04-2024

1) Consider the following statements with respect to Section 43-C of the Central Civil Service (Leave) Rules, 2010

1. It allows women employees to take childcare leave of 730 days till their disabled children attain 22 years of age.
2. It is implemented in all states and Union Territories.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Which among the below are the key pillars of NABARD's Climate Strategy 2030?

Accelerating green lending across sectors,
Playing a broader market-making role,
Internal green transformation and
Strategic resource mobilisation.

- a. Only one
- b. Only two
- c. Only three
- d. All of the above

3) "Mission ISHAN" often recently seen in news is related to which of the following?

- a. One Nation, One election
- b. One Nation, One fertiliser
- c. One Nation, One airspace
- d. One Nation, One ration card

4) The term "Omorgus Moreshwar" recently seen in news is related to which of the following species?

- a. Ant
- b. Spider
- c. Beetle
- d. Frog

5) Consider the following statements with respect to World Energy Council (WEC)

1. World Energy Council (WEC) is a global body established in 1923, with the aim of promoting sustainable supply and use of energy.
2. India is not a member to this forum.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answers

1. a

Section 43-C of the Central Civil Service (Leave) Rules, 2010

- It allows women employees
 - To take childcare leave of 730 days till their disabled children attain 22 years of age, and
 - Women with normal child can avail till the kids reach 18 years of age.

Supreme Court's recent judgment

- Participation of women in the workforce is not a privilege but a constitutional mandate.
- The bench directed the Himachal Pradesh govt to forthwith constitute a high-level committee to reconsider the entire issue of child care leave to women employees.
- It asked the committee to engage with Union ministries concerned and file a report, recommending appropriate policy decision on inserting child care leave for women in the state service rules, before the court by July 31.

2. d

NABARD's Climate strategy 2030

- **Aim** - To address India's need for green financing.
- **Key pillars**
 - Accelerating green lending across sectors,
 - Playing a broader market-making role,
 - Internal green transformation and
 - Strategic resource mobilisation.
- The initiative reinforces NABARD's commitment to environmental stewardship and positions it as a pivotal player in India's transition towards a resilient and sustainable economy

3. c

Mission ISHAN (One Nation, One Airspace)

India has kickstarted the process of unifying its 4 airspace regions into one spanning the entire nation.

- Currently, Indian airspace is divided into 4 flight information regions (FIRs) - Delhi, Mumbai, Kolkata, and Chennai and a sub-FIR at Guwahati, each managed separately.
- **ISHAN** - Indian Single Sky Harmonized Air Traffic Management at Nagpur.
- **Aim** – All coordination for domestic flights flying in upper airspace (above 25,000 ft) will be handled by air traffic controllers (ATCOs) in Nagpur.
- It is expected to make air traffic operations more efficient, safer and seamless, enabling it to handle more capacity.
- The move is also expected to benefit the passengers by reducing congestion and flying times.
- FIRs are controlled by a single authority, which is responsible for providing air traffic services as well as alerting services.
- The air traffic controllers (ATCOs) in every region would only be required to guide the flights approaching or taking off from an airport until they enter the upper space.
- **Benefits**
 - Flexibility in flight routes
 - Reduced Travel time
 - Lower fuel consumption
 - Reduce carbon footprint

4. c

Omorgus Moreshwar

Scientist Dr Aparna Sureshchandra Kalawate recently introduced a new species of beetles named *Omorgus (Afromorgus) Moreshwar*.

- The species is named after the Moreshwar temple, an ashtavinayak pilgrimage site in **Pune**.
- **Family** - The new beetle belonged to the **subgenus *Afromorgus* of the *Trogidae* family**, which now had 10 species from India.
- The new species of beetles is extremely rare and can be found only during monsoon.

- **Prey** - The beetle is necrophagous (fed on dead bodies) in the last stages of decomposition and also called **keratin beetle**.
- The beetle is important for forensic science as it **helps detect the time of death of an animal or human**.
- **Characteristics** - The beetles of this group are sometimes called '**hide beetles**' as they tend to cover their body under the soil and hide.
- They are not photogenic, beetles are usually black or grey and encrusted in dirt.
- **Appearance**
- Their bumpy appearance is distinct, with short, dense setae all over the body.
- After an organism died, blowflies were amongst the first to arrive in the early stages of decomposition.
- The final stage saw the arrival of the newly discovered beetle which fed on the corpse.



5. a

About World Energy Council India

- World Energy Council (WEC) is a global body established in 1923, with the aim of promoting sustainable supply and use of energy.
- **Headquarters** - London.
- The idea for the foundation of the Council came from Daniel Nicol Dunlop in the 1920s.
- It is an UN-accredited global energy body that has convened diverse interests from across the full energy ecosystem for a century.
- It has over 3,000 member organisations and a presence in nearly 100 countries.
- **WEC India** is one of the earliest country members of World Energy Council, having joined the Council in 1924.
- WEC India functions under the patronage of Ministry of Power, Government of India and with the support of the Ministries of Coal, New & Renewable Energy, Petroleum & Natural Gas and External Affairs.

27-04-2024

1) Consider the following statements with respect to ASEAN Future Forum

1. The ASEAN Future Forum, 2024, is initiated and hosted by Singapore.
2. Theme of the first forum is "Towards fast and sustainable growth of a people-centered ASEAN Community".
3. It will help in building trust and cooperation among ASEAN members and external partners.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

2) The Coalition for Disaster Resilient Infrastructure (CDRI) supports the achievement of goals and targets enshrined in which of the following?

1. Sustainable Development Goals
2. The Paris Climate Agreement
3. The Sendai Framework for Disaster Risk Reduction
4. The UN Agenda 2030 principles

Select the correct answer using the codes given below:

- a. All except 1 and 2
- b. All except 1 and 4
- c. All except 2 and 4
- d. All four

3) Article 39(b) in the Indian Constitution deals with?

- a. The ownership and control of the material resources of the community can be distributed to sub serve the common good
- b. The citizens, men and women equally, have the right to an adequate means to livelihood
- c. Equal pay for equal work for both men and women
- d. Children are to be given opportunities and facilities to develop in a healthy manner

4) Which of the following statement is **incorrect** with respect to 'Earth Day'?

- Earth Day aims to build the world's largest environmental movement to drive transformative change for people and the planet.
- The landmark Paris Agreement, which set a common target to reduce global greenhouse emissions, was signed on Earth Day in 2016.
- In 2009, the United Nations designated Earth Day as International Mother Earth Day.
- The theme of Earth Day, 2024 is 'Restore Our Earth'.

5) Consider the following statements with respect to Artemis Accords

- It is a series of non-binding arrangements aimed at setting down norms to be followed in outer space.
- India and China are signatories to the Artemis Accords.
- Sweden recently signed the Artemis Accords.

How many of the statements given above are **incorrect**?

- Only one
- Only two
- All Three
- None of the above

Answers

1. b

ASEAN Future Forum

Recently External Affairs Minister of India participated in the First ASEAN Future Forum virtually.

- ASEAN Future Forum acts as a platform for ASEAN and its partners to share new ideas and policy recommendations.
- The ASEAN Future Forum aims to become an annual multi-stakeholder, track 1.5 dialogue platform for open and constructive dialogues on the future of ASEAN.
- The objectives of ASEAN Future Forum includes:

- Foster meaningful discussions among diverse stakeholders about ASEAN's future.
- Create practical policy recommendations for ASEAN leaders.
- Support ASEAN's long-term goals while upholding its values.
- Build trust and cooperation among ASEAN members and external partners.
- Enhance ASEAN's ability to handle complex regional and global challenges.

- The ASEAN Future Forum 2024 is a one-day conference organized by the Diplomatic Academy of Vietnam under the patronage of the Ministry of Foreign Affairs of **Vietnam**.
- High-ranking officials from ASEAN Member States, including government leaders, policymakers, experts, and ASEAN's external partners, can participate in the event.
- Theme of the first forum is '**Toward fast and sustainable growth of a people-centered ASEAN Community**'.

2. d

Coalition for Disaster Resilient Infrastructure (CDRI)

PM recently addressed the 6th edition of International Conference on Disaster Resilient Infrastructure.

- The CDRI is a **global partnership** that aims to promote the resilience of infrastructure systems to climate and disaster risks, thereby ensuring sustainable development.
- The global partnership includes national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, academic and knowledge institutions.
- The Mission of the CDRI shall be to support countries to upgrade their systems to ensure disaster and climate resilience of existing and future infrastructure.
- The CDRI supports the achievement of goals and targets enshrined in the:
 - Sustainable Development Goals,
 - The Paris Climate Agreement,
 - The Sendai Framework for Disaster Risk Reduction and

4. The UN Agenda 2030 principles.

- *The Secretariat of the CDRI is located in New Delhi, India.*
- The governance arrangements for the Secretariat shall comprise three principal bodies, namely:
 1. The Governing Council
 2. The Executive Committee
 3. The Secretariat
- ***The Governing Council shall be the highest policy-making body of the CDRI.***
- It shall comprise all members of the Coalition.
- The members of the Governing Council shall be nominated by the governments of member countries, multilateral organizations, and other stakeholders.
- They are elected in a manner such that at ***least two-thirds*** of the members of the Governing Council represent national governments.
- The Governing Council shall be co-chaired by representatives of two national governments.
- ***India is the permanent co-chair of the Governing Council.***
- The other co-chair shall be nominated by rotation by the members of the Governing Council, every two years.
- The ***Executive Committee*** shall be the *managerial body* of the CDRI that oversees the implementation of the decisions of the Governing Council.
- The Executive Committee members shall provide multi-disciplinary operational guidance to the work of the CDRI.
- The Executive committee shall be co-chaired by two members on a *rotational basis for up to two years*.
- The Secretariat of the CDRI shall be headed by a Director-General appointed by the Governing Council.
- The *CDRI Secretariat shall maintain two funds*, in which the members can make financial contributions to either or both funds. The two funds are:
 1. Secretariat Fund
 2. Trust Fund
- ***The Secretariat Fund shall cover the core operating costs of the Secretariat.***

The CDRI Secretariat shall develop a Financial Sustainability Plan for the Secretariat Fund.

- ***The Trust Fund shall be an international and multi-donor trust fund used to fund the CDRI programmes.***
- It shall be governed by the Secretariat on behalf of the Executive Committee and be managed by a Trust Fund manager to be selected through an open call from among appropriate UN and multi-lateral agencies.
- The CDRI may establish a Partnership Framework to enable multi-stakeholder engagement.
- This shall be financed by members and other stakeholders with external funds, which may be leveraged by the funds of the Secretariat as appropriate.

3. a

Article 39(b)

Recently a nine-judge panel of the Supreme Court initiated proceeding to interpret Article 39(b) of the Constitution.

- **Article 39(b)** – It states that the state shall direct its policies to secure that the ownership and control of the material resources of the community are distributed as best to sub serve the common good.
- Article 39(b) of the Indian Constitution is a *Directive Principle of State Policy (DPSP)*.
- This provision embodies the principle of *distributive justice*, emphasizing the equitable distribution of wealth, resources, and opportunities among all sections of society.
- The interpretation of Article 39(b) has been subject to judicial scrutiny and debate over the years.
- Various landmark cases, such as the ***Ranganatha Reddy case (1977)***, ***Sanjeev Coke case (1983)*** and ***Mafatlal Industries case (1997)***, have contributed to shaping the understanding of this provision.
- In Ranganatha Reddy case (1977), the Supreme Court clarified that *private property doesn't fall under this category*.
- However, a dissenting view by Justice Krishna Iyer and a subsequent 1983 judgement muddied the waters by suggesting otherwise.

4. d

Earth Day

- Every year, **April 22 is observed as Earth Day**, an international event celebrated around the world to pledge support for environmental protection.
- **Earth Day was first observed in 1970** when 20 million took to the streets to protest against environmental degradation.
- The event was *triggered by the 1969 Santa Barbara oil spill* and other issues such as smog and polluted rivers.
- Earth Day aims to build the **world's largest environmental movement** to drive transformative change for people and the planet.
- The movement's mission is "to diversify, educate and activate the environmental movement worldwide."
- The landmark **Paris Agreement**, which brings almost 200 countries together to set a common target to reduce global greenhouse emissions, **was signed on Earth Day 2016**.
- In **2009**, the **United Nations** designated Earth Day as *International Mother Earth Day*.
- **The theme of Earth Day 2024 is 'Planet vs. Plastics'**.
- The theme highlights the threat plastics pose to the planet and human health. It calls for an end to all plastic waste by demanding a 60% reduction in the production of plastics by the year 2040.
- This day also recognises a collective responsibility, as called for in the 1992 Rio Declaration.
- It also provides an opportunity to raise public awareness around the world of the challenges regarding the well-being of the planet and all the life it supports.

5. a

Artemis Accords

Recently Sweden became the 38th country to sign the Artemis Accords.

- The Artemis Accords are a series of **non-binding arrangements** aimed at setting down norms to be followed in outer space.
- The Artemis Accords were initially **announced by NASA** and the US

Department of State in 2020 and it now has **38 signatories, including India and Japan.**

- **China is not a signatory to this accords.**
- It provides for the implementation of key obligations from the 1967 Outer Space Treaty and reinforces commitment to the Registration Convention, the Rescue and Return Agreement.
- Currently, the United States, India and Japan are the only leading spacefaring nations to sign the accords.
- To know more about the Artemis Accords [click here](#).

29-04-2024

1. Consider the following statements

Statement-I: Army Tactical Missile Systems is a surface to air artillery weapon system with a maximum range of 300km.

Statement-II: The United States has provided the Army Tactile Missile System to Ukraine to aid its war efforts against Russia.

Select the correct answer using the codes given below:

- Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement
- Statement-I is incorrect but Statement-II is correct
- Statement-I is correct but Statement-II is incorrect

2. Consider the following statements about Global Alliance of National Human Rights Institutions (GANHRI).

- It is a UN based internal accreditation system based on compliance with the 1993 Paris Principles.
- India's National Human Rights Commission has been granted "A" status by GANHRI.

Which of the above statement(s) is/are correct?

- 1 only
- 2 only
- Both 1 and 2

d. Neither 1 nor 2

3. The term biohacking seen in news, best refers to which of the following?

- a. It is the process of hacking implanted pacemaker of a patient
- b. It is unauthorized access or disclosure of sensitive patient information
- c. It is the art and science of self-improvement applied to everyday life.
- d. It is the process by which ethical hackers assess the insulin pumps and pacemakers

4. Consider the following statements

Statement-I: Eravikulam National Park in Kerala is the home to the largest population of the Nilgiri Tahr.

Statement-II: The first synchronised survey of Nilgiri Tahr is conducted by forest departments of Kerala, Tamil Nadu and Karnataka.

Select the correct answer using the codes given below:

- a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c. Statement-I is incorrect but Statement-II is correct
- d. Statement-I is correct but Statement-II is incorrect

5. "REACH" a comprehensive framework to ensure the safe use of chemicals is implemented by which of the following?

- a. United Nations Environment Program
- b. European Union
- c. World Plastics Council
- d. Organisation for Economic Co-operation and Development

Answers

1. c

Army Tactical Missile System

The United States has confirmed providing long-range Army Tactical Missile Systems (ATACMS) to Ukraine to aid its war effort against Russia.

- **Long range precision-** It is a conventional *surface-to-surface* artillery weapon system capable of striking targets well beyond the range of existing Army cannons, rockets and other missiles.
- **Maximum range-** 300 km.
- **Maximum speed-** Supersonic (It exceeds Mach 3)
- **Origin-** It is first used in 1986 to attack high-value targets like airfields, artillery and missile forces, supply areas and command groups. ATACMS helped the United States and its allies to quick victory in *Operations Desert Shield and Desert Storm*.

Operation Desert Shield and Desert Storm are the 42 country coalition led by the United States against Iraq

- **Versatility-** The missiles can be launched from platforms such as the High Mobility Artillery Rocket System (HIMARS) and Multiple Launch Rocket System (MLRS) M270, both of which have been provided to Ukraine by the US and the United Kingdom.
- **Precision targeting-** ATACMS is known for its precision targeting capabilities, allowing for accurate strikes on specific military targets or critical infrastructure.
- **Cluster munitions-** When fired, they would open in the air and release hundreds of "bomblets" rather than a single warhead.

Cluster munitions as per Convention on Cluster Munitions means a "conventional munition that is designed to disperse or release explosive submunitions each weighing less than 20 kilograms, and includes those explosive submunitions".

- **Russia-Ukraine war-** Ukraine has requested ATACMS since early stages of the war, in 2023 US delivered ATACMS to Ukraine, the use of these missiles threatened the entirety of the Russian land corridor in southern Ukraine

2. b

Global Alliance of National Human Rights Institutions

- **Launch year-** In 1993 at Tunis, Tunisia as the International Coordinating Committee of National Human Rights Institutions, it later got changed to GANHRI in 2016.

- **Headquarters-** Geneva, Switzerland.
- **Vision-** A world where everyone and everywhere fully enjoy their human rights.
- **Tripartite partnership-** GANHRI-UNDP-OHCHR (Office of the United Nations High Commissioner for Human Rights) aims to strengthen NHRIs in their capacity to promote and protect human rights, individually and through their regional and global networks resulting in increased fulfilment of human rights for all people.
- **Members-** 115 National Human Rights Institutions (NHRIs) from all regions of the globe and provides leadership and support in the promotion and protection of human rights.
- **Unique-** It is the *only non-UN body* whose internal accreditation system is based on compliance with the 1993 Paris Principles that grants access to UN committees.
- **Paris Principles, 1993-** It is the set of international standards which frame and guide the work of NHRIs, it was adopted by UN General Assembly (UNGA).
- **Rating-** The rating is based on the subcommittee consisting of one A status NHRI representative from each of the regional networks.
- **Sub-Committee on Accreditation-** It is a peer review process for initial accreditation, and re-accreditation every five years is managed by the subcommittee.
- **A status-** It is granted to NHRIs that are in *full compliance* with the Paris Principle, they are entitled to *vote or hold office* in the GANHRI or its regional groups.
- **B status-** It is given to NHRIs that *partially comply* with the Paris Principles. Institutions with B status can participate in GANHRI meetings but are *unable to vote* or hold governance positions
- **India-** National Human Rights Commission has been granted “A” status by GANHRI.

India being accredited in 1999 had retained its A ranking in 2006 and 2011, while its status was deferred in 2016 and restored after a year

- **Review status-** The NHRC’s ratings were put on hold in 2023 over concerns on its composition procedure, the presence of police personnel in human rights investigations, and the lack of gender and minority representation.

- **Impact-** The accreditation status would affect its ability to vote at the UN Human Rights Council and some UNGA bodies.

3. c

Biohacking

- It is the practice of using methods from various fields to enhance physical or mental performance health and well-being.
- **Nootropics-** It is a popular form of biohacking that includes a group of substances called nootropics, or “smart drugs. It consists of
 - **Prescription nootropics-** It consists of medicines prescribed by doctor and
 - **Non-prescription nootropics-** It consists of tablets, supplements, drinks, and foods.
- **Wearable technology-** Fitness tracker, smart watches etc., play a key role in providing real-time data on various aspects of health, which can then be used to make adjustments to lifestyle and behaviour.
- **DIY biohacking-** It involves experts in scientific fields sharing biohacking techniques and information with people who are not experts, this allows more people to conduct experiments on themselves outside of a constrained environment.
- **Nutrigenomics-** It focuses on how food interacts with people’s genes, it also how a person’s genes affect their body’s response to food.
- **Grinders-** They are biohackers who consider themselves pioneers of human augmentation, it typically involves devices implanted under the skin and the use of technology to perform body modifications.

Benefits	Challenges
<ul style="list-style-type: none"> • Personal empowerment- Biohacking empowers individuals to take control of their own health and well-being by experimenting with different lifestyle choices and interventions. • Healthcare innovation- It fosters a DIY (do-it-yourself) approach 	<ul style="list-style-type: none"> • Safety risks- DIY genetic engineering or self-experimentation with untested substances, carry inherent safety risks without proper oversight and regulation. • Ethical concerns- It raises ethical questions regarding the boundaries of self-experimentation, the potential consequences of altering human biology, and the equitable distribution of

<p>to health and wellness, which can lead to the development of new technologies, treatments, and interventions that may not be explored within traditional medical research settings.</p> <ul style="list-style-type: none"> • Personalisation- It promotes the idea of personalized medicine and interventions tailored to an individual's specific needs, genetics, and lifestyle factors. • Explore human potential- Biohacking pushes the boundaries of human potential by exploring ways to enhance physical and cognitive capabilities beyond what is considered "normal". • Community collaboration- Biohacking has fostered a community of like-minded individuals who share knowledge, experiences, and resources. 	<p>access to emerging technologies and interventions.</p> <ul style="list-style-type: none"> • Regulatory challenges- The rapidly evolving nature of biohacking poses challenges for regulatory agencies tasked with overseeing the safety and efficacy of medical treatments and interventions • Growing inequality- Accessibility to afford advanced biohacking tools and interventions may gain disproportionate advantages in terms of health and performance, widening the gap between the haves and have-nots. • Privacy concerns- Biohacking technologies, such as wearable devices and implantable sensors, raise concerns about data security and privacy as they are vulnerable to hacking or unauthorized access leading to potential privacy breaches or misuse of sensitive data.
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4. d

Nilgiri Tahr Survey

- **Scientific name** - Nilgiritragus hylocrius
- **Taxonomy**-- It is a congener of the
 - Himalayan tahr (Hemitragus jemlahicus), found in Kashmir and Bhutan and
 - Arabian tahr (Arabitragus jayakari), found in Oman and United Arab Emirates.
- **Uniqueness**- It is the only mountain ungulate (large mammals with hooves) in southern India amongst the 12 species present in India.
- **Population estimates** - 3,122 individuals in the wild (as per a report released by WWF India in 2015)

- **Habitat**- It is a sure-footed (not likely to slip) ungulate that inhabits the open montane grassland habitats at elevations from 1200 to 2600 m of the South Western Ghats.
- **Distribution**- It is endemic to Western Ghats but currently large populations are found only in Nilgiris and Anamalais.
- Palani hills, Srivilliputtur, and the Meghamalai and Agasthiyar ranges holds smaller population.
- **Eravikulam National Park**- It is in Kerala which is the home to the largest population of the Nilgiri tahr, with more than 700 individuals.

Every 12 years, this place will be carpeted with blue due to the mass flowering of Neelakurinji flowers

- **Anamalai Tiger Reserve**- It is estimated to be the second biggest habitat for the Tahr after Eravikulam National Park, the Grass Hills National Park is the home to the largest population believed to be over 200 individuals.
- **Threat** – Habitat loss and occasional hunting for its meat and skin.
- **Conservation status**
 - IUCN status – Endangered
 - Wildlife (Protection) Act of India, 1972 - Schedule I
- **State animal of Tamil Nadu**- The State celebrates October 7 as Nilgiri Tahr Day to honour hunter-turned-conservationist ERC Davidar.

Project Nilgiri Tahr

- **Initiative by**- Tamil Nadu
- **Launch year**- 2022
- **Aim**- To protect and conserve Nilgiri Tahr
- **Objectives**-
 - To develop a better understanding of the Nilgiri Tahr population through surveys and radio telemetry studies
 - Reintroduce the Tahr to their historical habitat.
 - Address proximate threats.
 - Increase public awareness of the species.
- **Head**- By a Project Director

- **Members-** The project will be assisted by a team which includes Assistant Director, senior scientists, research fellows and field staffs.
- **Time frame-** 5 year period from 2022 to 2027.
- **Fund-** By Tamil Nadu Pollution Control Board

First synchronised survey

- **Methodology-** It is a 3-day census that would be done based on bounded count and double observer methods would be used to estimate the population of the species.
- **Collaborative efforts-** It is a joint task by the Forest Departments of Tamil Nadu (Project Nilgiri Tahr) and Kerala focusing in both states.
- **Scientific approach-** It is supported by WWF- India, Wildlife Institute of India and Nature Conservation Foundation to ensure accurate population.

5. b

Plastic Polymers

- **Plastics-** They are a group of materials, either synthetic or naturally occurring, that may be shaped when soft and then hardened to retain the given shape.
- **Plastic polymers-** Plastics are based on polymers, which are large molecules formed by joining monomers.
- **Category-**
 - **Thermoplastics-** They are defined as polymers that can be melted and recast almost indefinitely.
 - **Thermosets-** It is a polymer that irreversibly becomes rigid when heated.

REACH

- Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) is a comprehensive regulatory framework.
- **Implemented by- European Union (EU)**
- **Aim-** To ensure the safe use of chemicals and to protect human health and the environment.
- **Evaluation-** Companies must register chemicals with the European Chemicals Agency (ECHA), which assess the information and the substances of very high concern may require authorization for use.

- **Restriction-** EU may restrict or phase out chemicals that pose significant risks.

30-04-2024

1) Consider the following statements with respect to Climate Technology Centre and Network (CTCN)

1. CTCN is the only technology mechanism and implementation arm of the United Nations Framework Convention on Climate Change.
2. It is an outcome of COP 28 which was held at United Arab Emirates.

Which of the above statement(s) is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

2) Iontronic Memristor, sometimes seen in the news recently, is associated with?

- a. A cone-shaped device that carries water and salt inside.
- b. A balanced quantum Hall resistor that provides a new measurement method.
- c. A drug test device developed by World Anti-doping Agency.
- d. A 3D printing device that uses an additive manufacturing process.

3) Consider the following pairs:

Places in News **Countries**

1. Old Kijabe Dam - Kenya
2. Lake Kariba - Zambia
3. Deucha Pachami Coal Mine - India
4. Sharavathi Pumped Storage - Nepal

How many of the pair(s) given above is/are correctly matched?

- a. Only one
- b. Only two
- c. Only three
- d. All four

4) Consider the following statements with respect to Inflammatory Bowel Disease (IBD)

1. It is characterized by chronic inflammation of the gastrointestinal (GI) tract.
2. IBD is a term for two conditions that includes Ulcerative Colitis and Irritable Bowel Syndrome.
3. It is a lifelong disease with no cure.

How many of the statements given above are correct?

- a. Only one
- b. Only two
- c. All Three
- d. None of the above

5) Hinglaj Mata, an ancient cave temple, is located in?

- a. India
- b. Nepal
- c. Indonesia
- d. None of the above

Answers

1. d

Climate Technology Centre and Network (CTCN)

The Climate Technology Centre and Network (CTCN) was established in 2013, and on April 19, 2024, it celebrated its 10-year anniversary.

- The CTCN is the implementation arm of the United Nations Framework Convention on Climate Change Technology Mechanism and is headquartered in Copenhagen, Denmark.
- ***It was established in 2013 and it is not an outcome of COP 28.***
- It is *hosted by UN Environment (UNEP)* in collaboration with the United Nations Industrial Development Organization (UNIDO) and with the support of 11 independent organizations.
- It mobilises the expertise of a global network of over 760 civil society, finance, private sector, and research institutions to deliver technical assistance and capacity building at the request of developing countries.

- ***The Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN) form the Technology Mechanism of the UN Framework Convention on Climate Change.***

- It creates links between countries, technology providers, technology policy and the financial community to enable nations to meet their climate goals and commitments.

- CTCN has funded over 300 technical assistance projects across 112 developing countries to help them meet their sustainable development commitments under the Paris Agreement.

- **Advisory Board** – CTCN operates within its terms of reference and is accountable to and under the guidance of the COP through an Advisory Board.

2. a

Iontronic Memristor

An iontronic memristor is a device that contains water and salt and was recently developed by scientists in South Korea.

- Iontronic memristor **is a cone-shaped device carries water and salt inside.**

- It is just 150 by 200 micrometres wide, the same width as three or four human hairs put side-by-side.

- It remembers how much electrical charge has previously flowed through it.

- Electrical impulses cause ions to move through the cone-shaped channel, with variations in the electrical charge leading to variations in the ion movement.

- The resistive state of memristors can be changed by the movement of ions in and out of the active layer when voltage is applied.

- The device emulates the brain's short-term synaptic plasticity features through ion transport in water.

- While artificial synapses capable of processing complex information already exist based on solid materials, the scientists have now shown for the first time that this feat can also be accomplished using water and salt.

- **Synapse** – Is a *microscopic gap between the terminal buttons of one neuron and the receptors of another neuron, where information is passed from one neuron to the next.*

- They are part of the nervous system.
- They are the structural basis of communication between neurons in the central nervous system (CNS) and between muscle cells and neurons in the peripheral nervous system (PNS).

3. c

Old Kijabe Dam, Lake Kariba, Deucha Pachami coal mine project & Sharavathi pumped storage project

- **Old Kijabe Dam** – It bursts after heavy rains in the Rift Valley of *Kenya* due to floods.
- Kenya, along with neighbouring Tanzania and Burundi, has recently been hit hard by floods.
- **Lake Kariba** – It is a major power source of *Zambia*. Due to decreased water levels, Zambia is experiencing power cuts.
- Zambia is predominantly dependent on hydropower.
- The hydropower currently accounts for over 80 % of its power production, sourced mainly from two main hydropower stations, namely the Kariba and *Itezhi-Tezhi dams*.
- **Pachami coal mine project** – Is a proposed mine project in Birbhum district of *West Bengal, India*.
- **Sharavathi pumped storage project** – L&T recently lost a legal battle against KPCL over Sharavathi pumped storage project in *Karnataka, India*.

4. b

Inflammatory Bowel Disease (IBD)

In recent times the rising incidence of Inflammatory Bowel Disease (IBD) across the globe has become a concern for doctors.

- Inflammatory bowel disease (IBD) is a term for two conditions (***Crohn’s disease and ulcerative colitis***) that are characterized by chronic inflammation of the gastrointestinal (GI) tract.
- ***It is different from Irritable Bowel Syndrome which is predominantly non-inflammatory.***
- ***It is a lifelong disease with no cure.***
- There is an increasing incidence of IBD across the globe, including in North America and Western Europe.

- It has almost *doubled in India from 1990 to 2019*, with rising death rate, lifestyle changes, a Westernised diet with high fat and high sugar, processed and packaged food have further increased incidence rates in India.
- **Symptoms** – Persistent diarrhea, Abdominal pain, Rectal bleeding/bloody stools, Weight loss and Fatigue.
- **Causes** – The *exact cause of IBD is unknown*, but IBD is the result of a weakened immune system.
- **Possible causes are:**
 - The immune system responds incorrectly to environmental triggers, such as a virus or bacteria, which causes inflammation of the gastrointestinal tract.
 - There also appears to be a genetic component. Someone with a family history of IBD is more likely to develop this inappropriate immune response.
 - Changes in lifestyle, a Westernised diet with high fat and high sugar, processed and packaged food cause an insult to the gut epithelium, precipitating inflammation.
- **Diagnosis** – Stool samples and Blood tests and a combination of endoscopy (for Crohn’s disease) or colonoscopy (for ulcerative colitis) and imaging studies, such as:
 - Contrast radiography.
 - Magnetic resonance imaging (MRI).
 - Computed tomography (CT).
- **Treatment** – Types of common medications to treat IBD are:
 - 5-aminosalicylic acids.
 - Immunomodulators.
 - Corticosteroids.
 - Biologics.
- Surgeries to remove damaged portions of the gastrointestinal tract.

Main Types Of IBD		
	Crohn’s Disease	Ulcerative Colitis
Affected Location	<ul style="list-style-type: none"> • Can affect any part of the GI tract (from the mouth to the anus). 	<ul style="list-style-type: none"> • Occurs in the large intestine (colon)

	<ul style="list-style-type: none"> • Most often it affects the portion of the small intestine before the large intestine/colon 	and the rectum.
Damaged Areas	<ul style="list-style-type: none"> • Damaged areas appear in patches that are next to areas of healthy tissue. 	<ul style="list-style-type: none"> • Damaged areas are continuous (not patchy). • It usually starting at the rectum and spreading further into the colon.
Inflammation	<ul style="list-style-type: none"> • Inflammation may reach through the multiple layers of the walls of the GI tract. 	<ul style="list-style-type: none"> • Inflammation is present only in the innermost layer of the lining of the colon.

5. d

Hinglaj Mata

Hinglaj Yatra, the Pakistan's largest Hindu festival recently ended successfully with participation of more than 100,000 Hindus.

- The Hinglaj Yatra in southwestern Pakistan emerges as a poignant intersection of cultural devotion and geopolitical complexities, echoing beyond its religious significance.
- Amidst the challenges of pilgrimage logistics and climatic adversities, Hindu devotees flock to seek blessings at the ancient Hinglaj Mata temple.
- The journeys begin hundreds of kilometres (miles) away, mostly from neighbouring Sindh province.
- Hundreds of packed buses set off from cities like Hyderabad and Karachi, travelling along the Makran Coastal Highway that hugs Pakistan's south and southwest.
- ***Hinglaj Mata, is an ancient cave temple located in Pakistan.***
- Hindus believe Hinglaj Mata is one the places where the remains of Sati, the goddess of marital felicity and longevity, fell to earth after she ended her life.
- It is the most sacred pilgrimage in the Hindu religion.