



EXCEL CIVILS ACADEMY

DAILY CURRENT AFFAIRS

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KEYS

1. Answer B

De Winton's golden mole, last sighted in 1937, has been found alive swimming through sand dunes in South Africa after an extensive search for the elusive species.

About De Winton's Golden Mole:

- It is an elusive blind mole that "swims" through sand, lives in inaccessible burrows, and has a shimmering, iridescent coat.
- Scientific Name: *Cryptochloris wintoni*

Distribution:

- It is endemic to South Africa.
- It has only ever been recorded in one location-Port Nolloth, on South Africa's northwest coast- where it was last sighted in 1937.
- Habitat: Its natural habitats are subtropical dry shrubland, Mediterranean-type shrubby vegetation, and sandy shores.

Features:

- The upper parts have short, dense fur that is slate-grey with a yellowish tinge.
- Individual hairs have grey bases, whitish shafts, and fawn tips.
- The face, cheeks, and lips have a more intense yellowish tinge.
- The underparts are rather paler than the upper parts, with individual hairs having white tips.
- The International Union for Conservation of Nature (IUCN) now rates this species as "critically endangered". It is currently the only golden mole species with that classification.
- It is among the 25 "most wanted lost" species that are the focus of Global Wildlife Conservation's "Search for Lost Species" initiative.

2. Answer: B

Archaeologists have recently discovered a remarkably unusual cache of 2000-year-old copper coins within the remains of a Buddhist shrine, constructed at the historic site of Mohenjo Daro (Pakistan).

About Mohenjo Daro:

- Mohenjo Daro, or "Mound of the Dead" is an ancient Indus Valley Civilization city that flourished between 2600 and 1900 BCE.
- It lies in Pakistan's Sindh province, on the bank of the Indus River.
- It was discovered in 1922 by R. D. Banerji, an officer of the Archaeological Survey of India.

- At about 3 mi (5 km) in circuit, it was the largest city of the Indus civilization, and it probably served as the capital of an extensive state.
- It was built around the same time as the Great Pyramids of Egypt.
- The ruins were designated a UNESCO World Heritage Site in 1980.
- Laid out in a rectilinear grid and built out of baked bricks, the city featured a complex water management system, complete with a sophisticated drainage and covered sewer system, and baths in nearly every house.
- The city included a 900- square-foot Great Bath and about 700 wells. The Great Bath is a rectangular public pool situated in the citadel. These were part of a water system that enabled homes to have their own baths and toilets. Mohenjo-Daro, like its contemporaries (Kalibangan and Harappa), was also divided into two parts: the citadel and the lower town.

Citadel:

- The western mound, or Citadel 1980 was built on a raised platform of mud brick and consisted of all the important administrative structures like The Great Bath, granaries, and the College of Priests.
- It was fortified by a thick mud- brick retaining wall.
- Lower Town:
- The eastern or low-lying part of the town was also fortified and was meant for the settlement of commoners.
- Numerous streets and small alleys ran across this part of the city.
- Within this section, many sub- parts were built according to the guild systems.
- As people settled here, a large number of a of artifacts and information regarding the burial practices were found in this area.
- Multi-storey buildings:
- The people of Mohenjo-Daro lived in houses that had similar features throughout the town.
- They consisted of a central courtyard surrounded by rooms.
- Almost every household had individual toilets and bathrooms.
- The doors and windows always opened in the alleys.
- The concentration of wealth in the hands of a few can be seen through the dimensions of their houses.
- For instance, the commoners lived in single- storey houses while the rich lived in double or sometimes treble-storey houses.
- Field trial evaluation.

3. Answer : C

The world's first portable hospital, Aarogya Maitri Aid Cube', was unveiled recently in Gurugram.

About Aarogya Maitri Aid Cube:

- It is the world's first portable hospital.

- Designed indigenously under Project BHISHM (Bharat Health Initiative for Sahyog Hita and Maitri), the modular trauma management and aid system is made up of 72 detachable mini-cubes, each being a specialized station for emergency response and humanitarian efforts.
- It contains medical equipment and supplies such as a mini- ICU, an operation theatre, cooking station, food, water, a power generator, blood test equipment, power generator, an X-ray machine, and more.
- The cubes are capable of handling patients with severe injuries up to 25 major burns long limb fractures, chest injuries, spinal injuries and approximately 10 head injuries.
- It can treat as many as 200 patients.
- These cubes are light and portable, and can be rapidly deployed anywhere, from airdrops to ground transportation.

Design:

- It consists of 72 cubes that can be combined to form a specialized cage capable of accommodating 36 mini- cubes. The mini-cubes are packed with everything essential for the survival of 100 individuals for duration of 48 hours.
- There are two master cubes designed to be interconnected, allowing them to accommodate a maximum of 200 survivors. The total weight of every master cube with 36 cubes is less than 750 kilos.
- It relies on the Rubik's Cube concept and each of the cubes is designed to weigh less than 20 kilos to make it easy to carry up manually.
- The structure will also contain a tablet-based application which can operate all 72 cubes.

4. Answer : C

A new study shows that dopamine release in the human brain plays a crucial role in encoding both reward and punishment prediction errors.

About Dopamine:

- It is a neurotransmitter.
- It is a chemical messenger that helps in the transmission of signals in the brain and other vital areas.
- Dopamine is found in humans as well as animals, including both vertebrates and invertebrates.
- It plays a role as a "reward center" and in many body functions, including memory, movement, motivation, mood, attention, and more.
- Dopamine is released when your brain is expecting a reward. When you come to associate a certain activity with pleasure, mere anticipation may be enough to raise dopamine levels.
- Dysfunction of the dopamine system has been implicated in different nervous system diseases.
- High or low dopamine levels are associated with diseases including Parkinson's disease, restless legs syndrome, and attention deficit hyperactivity disorder (ADHD).

Where is dopamine produced?

- Neurons in the region at the base of the brain produce dopamine in a two-step process.
- First, the amino acid tyrosine is converted into another amino acid, called L-dopa.

- Then L-dopa undergoes another change as enzymes turn it into dopamine.
- In other parts of the body, dopamine acts as a type of hormone called catecholamine. Catecholamines are made in the adrenal glands- small hormone production factories that sit on top of the kidneys.
- There are three main catecholamines: Dopamine, Epinephrine (adrenaline), and Norepinephrine.
- These hormones get released into the bloodstream when the body is physically or mentally stressed. They cause biochemical changes that activate the so-called fight-or-flight response. That's the body's natural reaction to real or perceived stress.

5. Answer: A

The Central Government recently appointed seven people, including a former Delhi police commissioner, as 'special monitors' of the National Human Rights Commission (NHRC).

About National Human Rights Commission (NHRC):

- It is a statutory body established in 1993, under the Protection of Human Rights Act, 1993.
- It is the watchdog of human rights in the country.
- It is established in conformity with the Paris Principles (1991), adopted at the first international workshop on national institutions for the protection of human rights.

Objectives:

- To strengthen the institutional arrangements through which human rights issues could be addressed in their entirety in a more focused manner.
- To look into allegations of excesses, independently of the government, in a manner that would underline the government's commitment to protect human rights.

Composition:

- It includes a Chairperson and eight other members.
- The Chairperson of NHRC is the retired Chief Justice of India.
- Out of the eight members, four are full-time members, whereas the other four are deemed members.
- Out of the 4 full time members of the NHRC:
 - One member should be a working or retired Judge of the Supreme Court.
 - Other member should be working or retired Chief Justice of a High Court.
- Two members are selected based on their experience and knowledge of human rights.
- The 4 deemed members of NHRC are the chairpersons of the National Commission for Minorities, the National Commission for Scheduled Castes, the National Commission for Scheduled Tribes and the National Commission for Women.
- The Chairperson and members are appointed by the President on the recommendations of a six-member committee consisting of
 - Prime Minister as its head
 - Speaker of the Lok Sabha

- Deputy Chairman of the Rajya Sabha Leaders of the Opposition in
- Leaders of the Opposition in both the Houses of Parliament
- Union Home Minister
- Term: The chairperson and members are appointed for a term of 3 years or till the age of 70 years, whichever is earlier.
- The chairperson and members are eligible for reappointment.
- Functions of the NHRC:
 - Inquire, on its own initiative or on a petition presented to it by a victim or any person on his behalf, into a complaint of violation of human rights, or abetment or negligence in the prevention of such violation, by a public servant;
 - Intervene in any proceeding involving any allegation of violation of human rights pending before a court with the approval of such court;
 - Visit any jail or any other institution under the control of the State Government, where persons are detained or lodged for purposes of treatment, reformation or protection to study the living condition of the inmates and make recommendations thereon;
 - Spread human rights literacy among various sections of society;
 - Study treaties and other international instruments on human rights and make recommendations for their effective implementation;

Powers:

- While inquiring into complaints under the Act, the Commission shall have all the powers of a civil court trying a suit under the Code of Civil Procedure, 1908.
- It can summon and enforce the attendance of witnesses and examine them on oath.
- It can summon and enforce the attendance of witnesses and examine them on oath.
- It can also grant compensation to the victims of police brutality.
- If necessary, the NHRC can approach the Supreme Court or the High Court for the enforcement of human rights in order to protect the rights of individuals or groups.
- The NHRC has the authority to take "suo motu" cognizance of human rights violations, even if a formal complaint has not been filed.

6. Answer C

Recently, India was re-elected to the International Maritime Organisation (IMO) Council with the highest tally at elections held at its Assembly in London for the 2024-25 biennium.

- It is a specialized agency of the United Nations which is responsible for measures to improve the safety and security of international shipping and to prevent pollution from ships.
- It is the global standard-setting authority for the safety, security and environmental performance of international shipping.

- Its main role is to create a regulatory framework for the shipping industry that is fair and effective, universally adopted and universally implemented.
- Formation: It was established as the Inter-Governmental Maritime Consultative Organization (IMCO) in 1948, became a specialized agency of the United Nations in 1959 and was renamed International Maritime Organization in 1982.
- Structure of the organisation:
- Assembly: It is the highest governing Body of the IMO. It consists of all Member States, and it meets once every two years in regular sessions. The Assembly is responsible for approving the work program, voting the budget and electing the Council.
- Council: It is the executive Organ of the IMO and is responsible, under the Assembly, for supervising the work of the Organization.
- Committees: The five policy- making committees are responsible for the development, review, updating, and approval of the organization's guidelines and regulations.
- Funding: Funding for the organization comes from contributions by member states, as well as voluntary donations and commercial activities.
- Members: It currently has 175 Member States.
- Headquarters: London.

7. Answer: C

Reports indicate Reliance Jio, India's largest mobile carrier, has been testing Voice over New Radio (VoNR) behind the scenes.

- It is also known as Voice over New Radio (VoNR).
- This standard allows voice calls over 5G networks instead of the current standard that uses 4G.
- In simple terms, Vo5G takes all the improvements of 5G - speed, capacity, responsiveness and applies them squarely to voice.
- It aims to have all that infrastructure and interoperability ready well in advance.
- To use Vo5G, you need three things: a phone that supports Vo5G, a carrier that offers Vo5G, and a 5G signal in your area.

How is VoNR better than VoLTE?

- VoNR brings clear advances over VoLTE.
- With 5G's substantially higher bandwidth and lower latency compared to 4G LTE.
- Enhanced call quality: It utilizes more advanced audio codecs that provide superior clarity and fidelity based on 5G's increased data capacity.
- Faster connection times: It promises faster call connection times, ensuring a seamless and prompt user experience.
- Improved reliability: Vo5G aims to eliminate the notorious call drop issues, particularly during transitions between 5G and 4G.

- Lower packet loss contributes to better reliability, minimising the occurrence of voice cutouts during calls.

8. Answer: A

Recently, Vaishali Rameshbabu and her younger brother Rameshbabu Praggnanandhaa have become the first-ever Grandmaster brother-sister duo in history.

- Grandmaster is the highest title or ranking that a chess player can achieve.
- The Grandmaster title and other chess titles is awarded by the International Chess Federation, FIDE.
- The title is the badge of the game's super-elite, recognition of the greatest chess talent on the planet, which has been tested and proven against a peer group of other similarly talented players in the world's toughest competitions.
- Besides Grandmaster, the Qualification Commission of FIDE recognises and awards seven other titles: International Master (IM), FIDE Master (FM), Candidate Master (CM), Woman Grandmaster (WGM), Woman International Master (WIM), Woman FIDE Master (WFM), and Woman Candidate Master (WCM) are also be given.
- All the titles, including that of Grandmaster, are valid for life, unless a player is stripped of the title for a proven offence such as cheating.
- Revocation of title
- The "use of a FIDE title or rating to subvert the ethical principles of the title or rating system may subject a person to revocation of his title".
- In case it is found after a title has been awarded that the player was in breach of the Anti-Cheating Regulations in one or more of the tournaments on which the title application was based, then the title may be removed by the Qualification Commission".

9. Answer: D

Recently, researchers have developed miniature robots using human cells and termed them as anthrobots.

- These are constructed from human tracheal cells which are bio-robots that possess self- assembly capabilities.
- These are capable of both movement and healing neurons within a laboratory setting.
- They can spontaneously fuse together to form a larger structure called a superbot, which was able to encourage the growth of neurons.
- Size: They are measuring between the width of a human hair and the tip of a sharpened pencil.
- Structure: The anthrobots displayed diversity in structure and behavior. Some took on a spherical shape fully covered in cilia, while others resembled a football shape irregularly adorned with cilia.
- These anthrobots are different from Xenobots, which are created from embryonic stem cells of frog.

Application

- They hold promise for regenerative medicine, wound healing, and disease treatment.

What are Tracheal cells?

- These are from the lining of the bronchi/trachea, the network of tubes used to convey air to the lungs.
- They are responsible for producing lubricating mucus to keep the airways functional and they are a type of epithelial cell, a term used generally to refer to cells lining the inside or outside of the body.
- These cells generate mucus and a number of other compounds, which play an important role in respiration.

10. Answer: C

Recently, India and Sweden launched Leadership Group for Industry Transition (LeadIT) 2.0 during the COP28 World Climate Action Summit, hosted in Dubai.

- Since its inception in 2019, LeadIT has grown into a collaborative effort involving 18 countries and 20 industry-leading companies.
- The LeadIT initiative, initially centered around pivotal such as iron, steel, cement, and aluminum, focused on industry transition and knowledge sharing.
- LeadIT has played a pivotal role in accelerating the adoption of low-carbon technologies, aligning with global environmental goals.
- Three core areas of LeadIT 2.0:
 - Inclusive and Just Industry Transition: Ensuring that industry transitions are not only efficient but also equitable, promoting fairness and inclusivity in the process.
 - Low Carbon Technology Development and Transfer :
 - Placing renewed emphasis on the development and seamless transfer of low-carbon technologies, crucial for achieving sustainable practices across industries.
 - Emerging Economy Technology Transfer: Facilitating the expedited transfer of innovative solutions to emerging economies, assisting in their transition to more sustainable practices.
 - It serves as a platform for public-private collaboration, fostering sector-specific and cross-sectoral learning, especially concerning innovation opportunities and new technologies.