RULES ON CONTESTING ELECTIONS IN INDIA

Background:

- Recently, Congress leader Rahul Gandhi announced that he would contest from Rae Bareli in Uttar Pradesh.
- According to the Representation of the People Act (RPA), 1951, a candidate is permitted to contest an election from up to two constituencies.
- However, he or she can hold only one seat at a time if elected from both.

About Representation of the People Act, 1951:

- Constitution allows the Parliament to make provisions in all matters relating to elections to the Parliament and State Legislatures.
- In accordance, the Parliament has enacted the following laws:
    - **Representation of the People Act 1950**,
    - **Representation of the People Act 1951** and
    - **Delimitation Commission Act of 1952**
- Representation of the People Act 1951 deals with the qualifications and disqualifications of people's representatives.
- **Section 33(7)** of the Representation of People Act, 1951 allows a person to contest election for the same office from two constituencies at the same time.
    - However, **Section 70 bars candidates from representing two constituencies in the Lok Sabha/state**.
- Prior to 1996, there was no bar on the number of constituencies one can contest from.
    - The provision was then amended and a limit of two seats was set.

Does the Contest Have to be a Voter in a Particular State to Contest Elections?

- A person has to be a voter in a particular State to contest Assembly polls from there.
- But to contest in a Lok Sabha election, a person can be registered as a voter in any constituency of the country.

- If a person is a registered voter in any constituency, he or she can contest from any seat in India, except **Assam**, **Lakshadweep** and **Sikkim**.

Various Other Criteria for Contesting Elections:

- **Minimum Age**:
  - To contest for Lok Sabha or Assembly elections, one needs to be at least 25 years old.
  - For Rajya Sabha or State Legislative Council, it's 30 years.
  - One must be an Indian citizen, registered as a voter in a constituency, and not have been convicted of a serious crime.
- **Grounds for Disqualification:**
  - A person shall be disqualified from being chosen as or being a member of either House if he holds any **office of profit** under the Government of India or the Government of any State;
  - If he or she is of unsound mind and stands so declared by a competent court;
  - If he or she is an undischarged insolvent;
  - If he or she is not a citizen of India or has voluntarily acquired the citizenship of a foreign state.
  - Under the RPA Act, if a person is convicted of any offence and sentenced to an imprisonment of two years or more, this will lead to his disqualification to contest elections.

Measures Taken by the ECI w.r.t. Election Funding:

- The ECI has amended the rules for political party funding during elections.
- The new regulations include decreasing the cash donation limit from ₹20,000 to ₹2,000.
- For the 2024 Lok Sabha elections, the **ECI has banned cash transportation in bank vehicles after sunset**.
- The Commission is also **monitoring non-scheduled chartered flights for cash, liquor, and drug movement**.

KAMIKAZE DRONE

In the ongoing conflict in Ukraine, Russia's utilization of the Lancet Kamikaze drone, which incorporates American AI technology, highlights complex global supply chain issues.

Kamikaze drone are small **unmanned aircraft** packed with **explosives** that can be flown directly at a tank or a group of troops that are destroyed when it hits the target and explodes. These are also called as **Switchblade drones**.

- The name comes from the World War 2 era's feared Japanese kamikaze pilots, who conducted suicide attacks by intentionally crashing their explosive filled aircraft into enemy targets.
- **Features**
    - The modern drone versions have the capability of surpassing traditional defences to strike their targets and are also cheaper than their larger counterparts.
    - The small lethal drones are **difficult to detect on radar**, and through the use of facial recognition, can be programmed to **hit targets without human intervention.**
- Although the US Kamikaze might be the most advanced in this class of drones, Russia, **China, Israel, Iran and Turkey** all have some versions of it.

What is Lancet-3 drone?

- It is a type of **loitering munition,** integrates the Jetson TX2 — described by Nvidia as the most power-efficient **embedded AI computing device.**

UNITED NATIONS FORUM ON FORESTS

Delegates at 19th Session of the United Nations Forum on Forests (UNFF19) entered into informal negotiations over the draft texts of the High-Level Declaration.

About United Nations Forum on Forests:

- It was established in 2000 by **the UN Economic and Social Council of the United Nations (ECOSOC).** It promotes the management, conservation, and sustainable development of all types of forests.
- The **Forum meets annually** at the UN Headquarters in New York, bringing together representatives of all member states and forest-related agencies for high-level dialogue on technical matters in odd years and policy matters in even years.
- The forum has **universal membership**, and is composed of all Member States of the United Nations and specialized agencies.
- **India** is a **founding member** of UNFF.
- The declaration of the 19th session aims to achieve agreement on a high-level political commitment to forest protection, with specific actions for effective implementation of the **UN Strategic Plan for Forests (UNSPF)** by UNFF and its stakeholders.

UN Strategic Plan for Forests 2017-2030:

- It provides a **global framework for actions** at all levels to sustainably manage all types of forests and trees outside forests and halt deforestation and forest degradation.
- It also provides a framework for **forest-related contributions** to the implementation of the 2030 Agenda for Sustainable Development, the Paris Agreement adopted under the UN Framework Convention on Climate Change, the Convention on Biological Diversity and the UN Convention to Combat Desertification etc.
- It serves as a **reference** for the **forest-related work of the UN system** and for fostering enhanced coherence, collaboration and synergies among UN bodies and partners.

WHAT ARE AURORAS?

Recently, the night sky was lit up by northern lights, or aurora borealis, at Hanle village in Ladakh.

Auroras are essentially **natural lights** that appear as bright, swirling curtains in the night sky and can be seen in a range of colours, including blue, red, yellow, green, and orange.

- These lights primarily **appear near the poles** of both the **northern and southern hemispheres** all year round but sometimes they expand to lower latitudes.
- These are called as **aurora borealis in the north** and in the south, it is known as the aurora australis.

Why do auroras occur?

- It is due to activity on the **surface of the Sun**. The star continuously releases a **stream of charged particles**, mainly electrons and protons, and magnetic fields called the solar wind.
- As the solar wind approaches the Earth, it is deflected by the **planet's magnetic field**, which acts like a protective shield.
- However, some of the charged particles are trapped in the magnetic field and they travel down the magnetic field lines at the north and south poles into the upper **atmosphere of the Earth.**
- These particles then interact with different gases present there, resulting in tiny flashes that light up the night sky.
- When solar wind particles collide with oxygen, a green colour light is produced. Interaction with nitrogen produces shades of blue and purple.

Auroras expand to **midlatitudes** when the **solar wind is extremely strong**.

- This happens when the activity on the Sun's surface goes up, leading to solar flares and coronal mass ejections (CMEs), which are essentially extra bursts of energy in the solar wind.
- In such cases, the solar wind is so intense that it can result in a geomagnetic storm, also known **as a magnetic storm** — a temporary disturbance of the Earth's magnetic field. It is during a magnetic storm that auroras can be seen in the mid-latitudes.

WHAT ARE DEADBOTS?

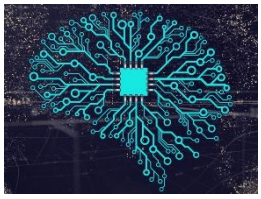
A new study urges caution in the development of Artificial Intelligence (AI) chatbots designed to mimic deceased loved ones, known as 'deadbots'.

Deadbots also **known as griefbots,** are AI-enabled digital representations of departed loved ones.

- **Working:** These chatbots **simulate their language patterns** and personality traits using their digital footprint, like emails, social media posts and even voice recordings, to create **a conversational AI** that reflects their personality.
- **Issues:**
    - Researchers have warned that these chatbots, while potentially comforting, could **lead to psychological distress** if not designed with safety in mind.
    - Solutions that might be enthusiastically adopted in one **cultural context** could be completely dismissed in another.

What is Conversational AI?

- It is a type of artificial intelligence (AI) that can **simulate human conversation.**
- It is made possible by **natural language processing** (NLP), a field of AI that allows computers to understand and process human language and Google's foundation models that power new generative AI capabilities.
- It works by using a combination of natural language processing (NLP), foundation models, and **machine learning** (ML).
- These AI systems are trained on large amounts of **data, such as text and speech.**
- This data is used to teach the system how to understand and process human language. The system then uses this knowledge to interact with humans in a natural way. It's constantly learning from its interactions and improving its response quality over time.



WHAT ARE NEURAL PROCESSING UNITS (NPU)?

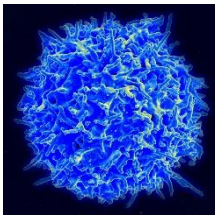
Neural Processing Units (NPU) is a **dedicated processor** designed specifically for accelerating neural network processes.

- A **neural network** is essentially a type of machine learning algorithm that mimics the human brain for processing data.

- Therefore, the NPU is **highly capable for handling machine learning operations** that form the basis **for AI-related tasks,** such as speech recognition, natural language processing, photo or video editing processes like object detection, and more.
- **In most consumer-facing gadgets,** such as smartphones, laptops, and tablets, the NPU is integrated within the main processor, adopting a System-on-Chip (SoC) configuration.
- However, **for data centres**, the **NPU might be** an **entirely discrete processor**, separate from any other processing unit such as the central processing unit (CPU) or the Graphics processing unit (GPU).

How is NPU different from CPU and GPU?

- **CPUs employ a sequential computing method**, issuing one instruction at a time, with subsequent instructions awaiting the completion of their predecessors.
- In contrast, the **NPU harnesses parallel computing** to simultaneously execute numerous calculations. This parallel computing approach results in swifter and more efficient processing.



WHAT ARE T CELLS?

- T cell is a **type of white blood cell**. It is also called T lymphocyte and thymocyte.
- T cells are **part of the immune system** and **develop from stem cells** in the bone marrow. They help protect the body from infection and may help fight cancer.

There are **two main types:**

- **Cytotoxic T-cells:**Destroy infected cells.
- **Helper T-cells**: Send signals that direct other immune cells to fight infection.

- Rather than generically attack any antigens, T cells **circulate until they encounter their specific antigen.**
- T-cells have many **identical T-cell receptors**that cover their surfaces and can **only bind to one shape of antigen.**
- When a T-cell receptor fits with its viral antigen on an infected cell, the **Killer T-cell releases cytotoxins** to kill that cell.

SEA ANEMONE

Sea Anemone is an invertebrate **aquatic animal** marked by **soft bodies** and has an ability to sting. They are close associates of corals and live rocks.

- It is an ocean-dwelling members of the **phylum Cnidaria.** It has a **sticky foot or disc** that allows them to anchor to rocks on the sea bottom or on coral reefs.
- They have **stinging cells** which are equipped with organelles known as **nematocysts** that contain small threads which are forcefully everted when stimulated mechanically or chemically.
- They are known to form **symbiotic relationships with other animals**; their most well-known alliance is with clownfish.
- They make their homes within the anemone's tentacles, protected from predators; in return, the anemone eats the clownfish's leftover meals.
- They can have anywhere from a dozen to a few hundred tentacles. These cnidarians come in a variety of colors, decorating a tide pool or reef like a garden of wildflowers.
- Some species of sea anemones also have a relationship with **Hermit crabs.** The anemone will attach itself to the crab's shell and be carried around to find more food, while the crab uses the anemone as protection from its predators.

KEY FACTS ABOUT PANAMA

Panama is on the verge of a dramatic change to its immigration policy that could reverberate from the dense Darien jungle to the U.S. border.

Panama is a country in **Central America** located **on the Isthmus of Panama**, the narrow bridge of land that connects North and South America.

- It is **bordered by Costa Rica** and **Colombia** and is situated **between** the **Caribbean Sea and the North Pacific Ocean.**
- Embracing the isthmus and more than 1,600 islands off its Atlantic and Pacific coasts, the tropical nation is renowned as the **site of the Panama Canal**, which cuts through its midsection.
- Most **Panamanians** are **descended from indigenous**, or native, **people, Europeans, Afro-Caribbeans, and immigrants** from all over the world.
- Panama has the **largest rainforest in** the **Western Hemisphere outside** the **Amazon Basin.**
- **Capital: Panama City, Language: Spanish**

What is the Panama Canal?

- It is a **constructed waterway** that **connects the Atlantic and Pacific** oceans across the Isthmus of Panama. It is one of the two most **strategic artificial waterways** in the world, the other being the Suez Canal.
- The canal was **built by the United States** between 1904 and 1914, and it was officially opened on August 15, 1914.
- It is **owned and administered by the Republic of Panama** since the oversight of the Canal was transferred from the United States to Panama in 1999.
- The Panama Canal consists of a series of locks that raise and lower the water level to facilitate the passage of ships through the continental divide.