

Artemis Mission

❖ Context

- Recently, **NASA unveiled the crew on April 3 for its first human mission to the Moon** in more than 50 years - including the **first woman and Black man** to voyage into deep space.

❖ Key Highlights:

- **Christina Koch**, a NASA astronaut who holds the record for the longest single spaceflight by a woman, will be a mission specialist on next year's **Artemis II flight** around the Moon.
- NASA's **Victor Glover**, a **naval aviator**, will pilot the Orion spacecraft that circles the Moon in November 2024, becoming the **first Black man** to take part in a lunar mission.
- The three Americans & **one Canadian** will become the first astronauts to venture that deep into space since the historic Apollo missions ended in 1972.
- The **first Artemis flight** wrapped up in December with an uncrewed Orion capsule returning safely to Earth after a 25-day journey around the Moon.
- **Artemis II** :
 - The **10-day Artemis II mission** will test NASA's powerful Space Launch System rocket as well as the life-support systems aboard the Orion spacecraft.
 - The **space crew will not land on the Moon at any point**, with this honour belonging to those who take part in the following **Artemis III mission**, which is tipped to take place in **2025**.
 - Artemis II will aim at **returning astronauts to the moon's surface later this decade** and ultimately establishing a sustainable outpost there, creating a stepping stone to future human exploration of Mars.

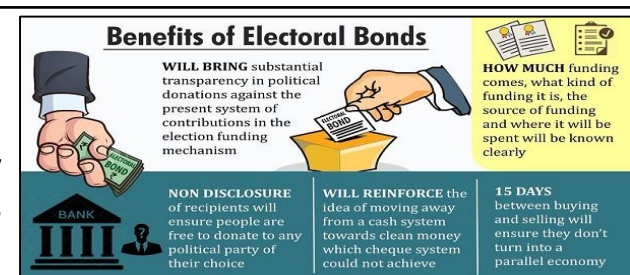
❖ About Artemis Mission:

- NASA's Artemis mission is touted as the **next generation of lunar exploration**.
- It is named after the twin sister of Apollo from Greek mythology. Artemis is also the goddess of the moon.
- Artemis I was the **first of NASA's deep space exploration systems**.
- It is an **uncrewed space mission** where the **spacecraft was launched on Space Launch System (SLS) rocket** - the most powerful rocket in the world.
- **Artemis III** :
 - Following the second Artemis phase, NASA hopes to send astronauts to land on the lunar South Pole in 2025.
 - This historic landing will be the first time humans have set foot on the Moon in over 50 years, coming as part of Artemis III.
 - Collecting wider information on the Moon and our solar system will also be a primary objective ahead of ambitions to launch projects on Mars & asteroids.
- ❖ **Other Space Agencies Involved in the Mission:**
 - **Canadian Space Agency** : It will provide advanced robotics for the gateway.
 - **European Space Agency** : It will provide the International Habitat and the ESPRIT module, which will deliver additional communications capabilities among other things.
 - **Japan Aerospace Exploration Agency** : It plans to contribute habitation components and logistics resupply

Electoral Bonds

❖ Context

- Ahead of the Karnataka Assembly elections in May, **electoral bonds for funding political parties were opened for sale Monday (April 3)** for a 10-day window till April 12 at 29 authorised branches of State Bank of India (SBI).



❖ Electoral Bonds:

- The electoral bonds were **introduced with the Finance Bill (2017)**.
- An electoral bond is like a **promissory note** that can be **bought by any Indian citizen or company incorporated in India** from select branches of State Bank of India.
- The citizen or corporate can then donate the same to any eligible political party of his/her choice.
- The bonds are similar to bank notes that are payable to the bearer on demand & are **free of interest**.
- An individual or party will be allowed to purchase these bonds digitally or through cheque.
- The bonds will be issued in **multiples of Rs 1,000, Rs 10,000, Rs 100,000 and Rs 1 crore (the range of a bond is between Rs 1,000 to Rs 1 crore)**.

- These will be available at some branches of SBI only (29 Branches).
- A donor with a **KYC-compliant account** can purchase the bonds and can then donate them to the party or individual of their choice. Now, the receiver can encash the bonds through the party's verified account. The **electoral bond will be valid only for fifteen days**.
- The electoral bonds **will not bear the name of the donor**. Thus, the political party might not be aware of the donor's identity.
- The donations would be **tax deductible**.
- Any party that is registered under **section 29A of the Representation of the Peoples Act, 1951 (43 of 1951)** and has secured at least **one per cent of the votes polled** in the most recent General elections or Assembly elections is eligible to receive electoral bonds.

Face to Face Centres

News in Between the Lines

Ice Memory



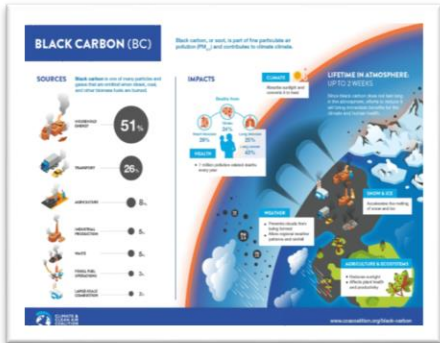
❖ **Context**

➤ Scientists camped in the Arctic are set to **start drilling to save samples of ancient ice for analysis** before the frozen layers melt away due to climate change.

❖ **Key Highlights:**

- They will extract ice in a series of tubes from as far as **125 metres (137 yards)** below the surface, containing frozen geochemical traces dating back three centuries.
- One set of ice tubes will be used for immediate analysis, while a second set will be sent to Antarctica for storage in an **“ice memory sanctuary”** under the snow.
- Analysis of chemicals in deep "ice cores" provides scientists with valuable data about past environmental conditions.
- **The Ice Memory Project :**
 - Mountain glaciers keep a record our climate and our environment, captured in ice.
 - They are the only direct natural records we have of variations in atmospheric composition, a vital contribution to environmental and climate science.
 - However, this memory of our planet's story is disappearing as many glaciers retreat unrelentingly throughout the world, because of climate change.
 - The Ice Memory project aims to **constitute the first world library of archived glacier ice**, to preserve this invaluable scientific heritage for the generations to come, when future techniques can obtain even more data from these samples.
 - The project is under the patronage of the **French and Italian National Commissions for UNESCO.**

Black Carbon



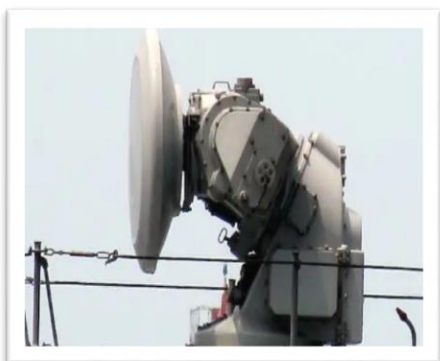
❖ **Context**

➤ Recently, a Parliamentary Standing Committee on Water Resources recommended a detailed study on the impact of atmospheric pollution, including **black carbon, on the Himalayan glacier system.**

❖ **Black Carbon:**

- Black carbon, or **soot**, is **part of fine particulate air pollution (PM2.5) and contributes to climate change.**
- Black carbon is formed by the **incomplete combustion of fossil fuels, wood and other fuels.**
- Complete combustion would turn all carbon in the **fuel into carbon dioxide (CO2)**, but combustion is never complete and CO2, carbon monoxide, volatile organic compounds, and organic carbon and black carbon particles are all formed in the process.
- The **complex mixture of particulate matter** resulting from incomplete combustion is often referred to as soot.
- Black carbon is a **short-lived climate pollutant** with a lifetime of only days to weeks after release in the atmosphere.
- During this short period of time, black carbon can have significant **direct and indirect impacts on the climate**, the cryosphere (snow and ice), agriculture and human health.

Lynx-U2 fire control system



❖ **Context**

➤ The **Indian Defence Ministry** has signed a contract with **Bharat Electronics Limited (BEL)** for the procurement of **13 indigenously developed Lynx-U2 fire control systems.**

❖ **Key Highlights:**

- The **Lynx-U2 fire control system** is a **gun fire control system (GFCS)** that precisely monitors air/surface targets and generates target data to determine weapon aiming locations and engage targets.
- The system has been in operation for **over two decades** and has been meeting the tactical needs of **Indian Naval ships** of different types such as destroyers, frigates, missile boats, corvettes, and so on.

❖ **Significance:**

- It will enhance the navy's **ability to detect and engage targets** with greater accuracy, minimizing collateral damage.

Face to Face Centres



- The **Lynx-U2 system** is designed to track and engage targets amidst sea clutter, which is a significant challenge in naval operations.
- The system's open and scalable framework allows for easy integration with existing systems, enabling seamless interoperability and reducing operational complexities.
- The procurement of **indigenously designed and developed systems** will create job opportunities in the country, supporting the government's 'Make in India' initiative.
- This will reduce the reliance on foreign (**Original equipment manufacturer**) OEMs, resulting in cost savings, technology transfer, and skill development.
- The **Lynx-U2 system** has a proven track record of reliability and performance.

North Atlantic Treaty Organization (NATO)



❖ Context

- **Sweden's path to NATO membership** remains **blocked by Turkey and Hungary** as neighbour **Finland** officially joined the **30-member alliance** on April 4, 2023 after its application was ratified in record time.

❖ Background:

- Russia's invasion of Ukraine in February last year convinced Sweden and Finland to ditch long-held policies of military non-alignment. Both countries see NATO, with its collective defence clause, as the **best way to ensure their security**.
- The majority of NATO members have quickly ratified their applications.
 - They argue that **Finland – which shares a 1,300-km (810-mile) border with Russia** & Sweden would strengthen the alliance in the Baltic.
- After initial objections, **the Turkish parliament gave its approval for Finnish membership last week**. But Turkey has dragged its heels over Sweden saying it does not take Ankara's security concerns seriously & has not lived up to its side of a bargain.
- Hungary has followed Turkey's lead in delaying ratification, which must be unanimous.

❖ About NATO:

- Nato - the **North Atlantic Treaty Organization** - is a military alliance formed in 1949 by 12 countries, including the US, Canada, the UK and France.
- Members agree to come to one another's **aid in the event of an armed attack against any one member state**.
- Its aim was originally to counter the **threat of post-war Russian expansion in Europe**.
- **Headquarters** - Brussels, Belgium.
- **Headquarters of Allied Command Operations** is near Mons, Belgium.
- Since its founding the admission of new member states has increased the alliance from the original **12 countries to 30**.
- The most recent member state to be added to NATO before Finland was **North Macedonia on 27 March 2020**.
- **NATO membership is open to "any other European state** in a position to further the principles of this Treaty and to contribute to the security of the North Atlantic area."

Euthanasia



❖ Context



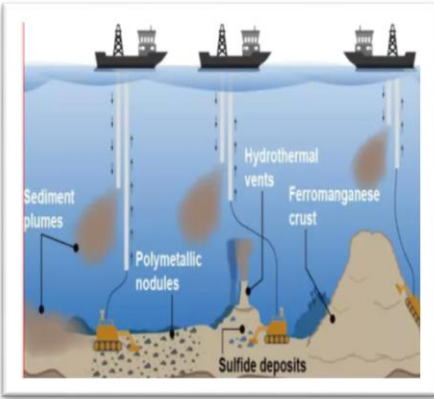
- France could be the next **European country** to legalise euthanasia for the terminally ill after President Emmanuel Macron recently called for a law on a "French model on the end of life" within months.

❖ About Euthanasia:

- **Euthanasia**, also known as assisted suicide or mercy killing, is the act of intentionally ending the life of a person who is suffering from a terminal illness or an incurable condition, usually with the assistance of a physician or other medical professional.
- There are **two main** types of euthanasia :
 - **Active euthanasia** refers to the intentional act of ending a person's life by administering a lethal substance or carrying out some other action that directly causes the person's death.
 - This could involve, for example, the administration of a lethal injection or the use of a lethal dose of medication.
 - **Passive euthanasia**, on the other hand, refers to the **withholding or withdrawal of medical treatment** that is necessary to sustain the **life of a terminally ill or suffering patient**.

Face to Face Centres



	<ul style="list-style-type: none"> This could involve, for example, the decision to not initiate or continue treatment that would artificially prolong the patient's life, such as mechanical ventilation, artificial hydration or nutrition.
<p>Combined Commanders' Conference (CCC)</p> 	<ul style="list-style-type: none"> ❖ Context <ul style="list-style-type: none"> ➤ The Combined Commanders' Conference (CCC) is an annual event that serves as a platform for India's military leaders to exchange ideas, review preparedness, and discuss national security matters. ❖ Key Highlights: <ul style="list-style-type: none"> • This year's theme was 'Ready, Resurgent, Relevant,' focusing on the progress made by the Armed Forces in meeting the challenges of modern warfare and ensuring they remain capable of fulfilling their mandate. • There was a review of progress made towards attaining 'Aatmanirbharta' or self-reliance in defence, including the preparation of the Armed Forces and progress in the defence ecosystem towards achieving this objective. • India's defence exports have been steadily increasing, with the government setting a target of \$5 billion for annual defence exports by 2024-25. • The Defence Procurement Policy has been changed to increase the indigenous content stipulated in various categories of procurement, supporting the 'Make in India' initiative. • The CCC serves as a crucial platform for India's military leaders to come together, review their preparedness and progress, and discuss the way forward to ensure national security.
<p>Akash Weapon System</p> 	<ul style="list-style-type: none"> ❖ Context <ul style="list-style-type: none"> ➤ Bharat Dynamics Limited (BDL) has recently signed a contract with the Ministry of Defence worth ₹8,161 crore for the production and supply of the Akash Weapon System (AWS) for two regiments of the Indian Army. ❖ Key Highlights: <ul style="list-style-type: none"> • The Akash Weapon System is a mobile, surface-to-air missile system designed and developed by the Defence Research and Development Organisation (DRDO). • The missile can target aircraft up to 30 km away and engage targets at an altitude of up to 18 km. • The system has an advanced radar that can track multiple targets and can be launched from both tracked and wheeled platforms. • The missile system has been inducted into the Indian Army and Indian Air Force.
<p>Deep-Sea Mining</p>  <p>MCQ Quiz Daily Current Affairs Daily Pre PARE Daily</p>	<ul style="list-style-type: none"> ❖ Context <ul style="list-style-type: none"> ➤ The UN's decision to allow deep-sea mining operations from July 2023 has raised several concerns. ❖ Key Highlights: <ul style="list-style-type: none"> • The mining will be carried out to extract key battery materials such as cobalt, copper, nickel, and manganese from "polymetallic nodules" found at depths of 4 km to 6 km. • However, there is no mining code in place, and several countries have insisted that industrial undersea mining should require strict rules. • The International Seabed Authority, which holds authority over ocean floors outside of its 167 member states' Exclusive Economic Zones, has decided to start taking permit applications from companies that want to mine the ocean floor. • The absence of a mining code, which has been under discussion for nearly ten years, has made the process uncertain for reviewing applications for mining contracts. ❖ Key Concerns: <ul style="list-style-type: none"> • It would harm the seabed and have a wider impact on fish populations, marine mammals, and the essential function of deep-sea ecosystems in regulating the climate. • The decision to allow deep-sea mining operations raises important ethical and environmental questions.