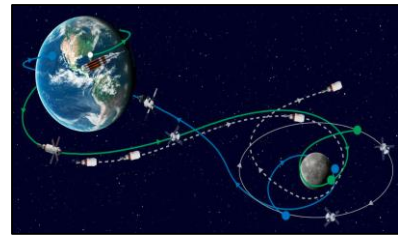


Artemis Mission

❖ 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.

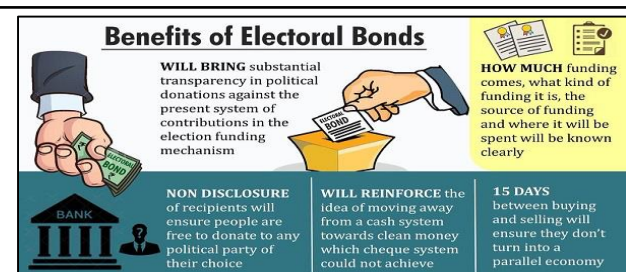
❖ About Artemis Mission:

- 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

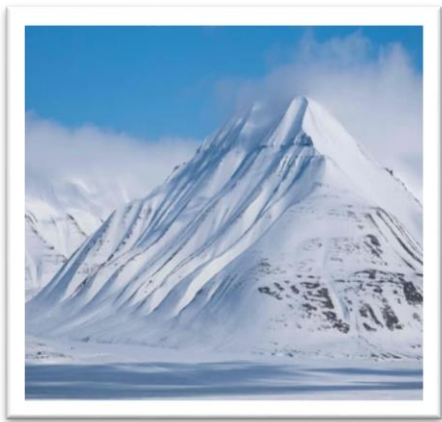
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News in Between the Lines

Ice Memory



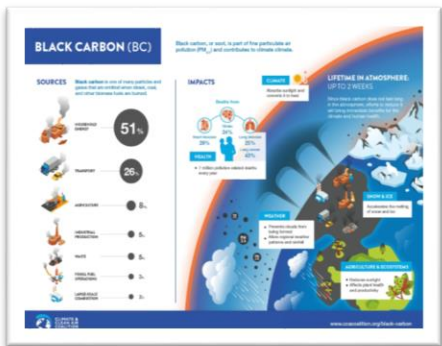
❖ Context

- 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



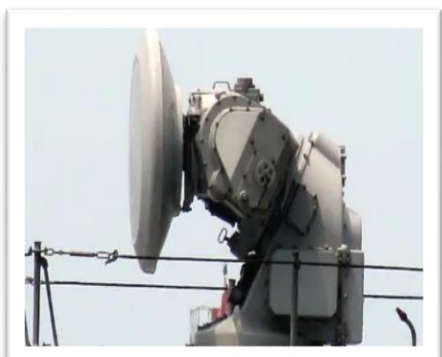
❖ Context

- 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

North Atlantic Treaty Organization (NATO)



- 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.

❖ 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



Combined Commanders' Conference (CCC)



- 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.**

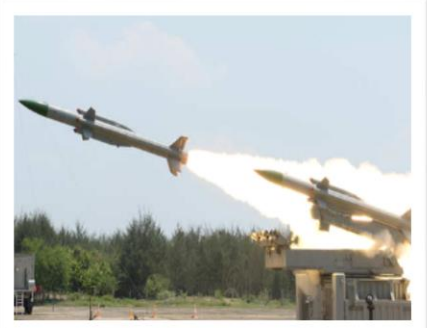
❖ Context

- 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:

- 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.**

Akash Weapon System



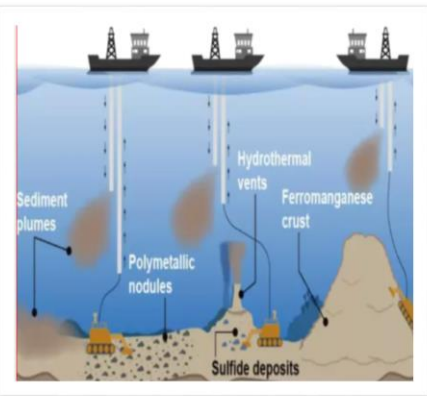
❖ Context

- **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:

- 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.

Deep-Sea Mining



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❖ Context

- The **UN's decision** to allow deep-sea mining operations from July 2023 has **raised several concerns.**

❖ Key Highlights:

- 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:

- 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.**

Face to Face Centres

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