## 28 February 2024 <br> National and International News

| Gaganyaan crew | Context: <br> - Four IAF pilots have been identified as potential crew members for the Gaganyaan mission, as Prime Minister Narendra Modi honored them with 'astronaut wings' during his visit to the Vikram Sarabhai Space Centre in Thiruvananthapuram. <br> Key points: <br> - These pilots have undergone rigorous training both in Russia and at the ISRO Astronaut Training Facility in Bengaluru. <br> - In preparation for the crewed mission, ISRO is conducting various tests, including Integrated Air Drop tests, Test Vehicle Missions, and pad Abort Tests, with unmanned flights preceding the actual mission. <br> - Additionally, ISRO has unveiled plans to send astronauts to the moon by 2040. <br> Gaganyaan: <br> - The Gaganyaan Mission is India's ongoing endeavor to launch a three-day manned mission into Low Earth Orbit (LEO) at an altitude of 400 km, carrying a crew and safely returning them to Earth. <br> - The inaugural manned spaceflight is scheduled for 2024(by the end of the year). <br> - Success in this mission will elevate India to join the elite group of nations-US, Russia, and China-with human spaceflight capabilities. |
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| India Completes '10,000 Genome' Project | Context: <br> - The Department of Biotechnology (DBT) has announced the completion of the ' 10,000 genome' project, aiming to create a reference database of whole-genome sequences from India. <br> - The United Kingdom, China, and the United States are among the countries that have programmes to sequence at least $1,00,000$ of their genomes. <br> Key points: <br> - Project was launched in 2020. |

- India's 1.3 billion population comprises over 4,600 endogamous groups, leading to significant genetic diversity.
- Over 20 institutions, including the Indian Institute of Science (IISc), Bengaluru, and the Centre for Cellular and Molecular Biology, Hyderabad, are involved in the project.
Aim:
- The project aims to gain deeper insights into India's population diversity, improve diagnostic methods and medical counseling, find genetic predispositions to disease, develop personalized drugs, improve gene therapy, and understand individual susceptibility to infectious diseases.

Definition: A genome is the complete set of genetic material within an organism. It contains all the information needed for the development, functioning, and reproduction of that organism.

- India is set to establish its own space station by 2035, as announced by Prime Minister Narendra Modi.
- Emphasizing India's space ambitions, Modi mentioned plans for a crewed lunar mission by 2040, with an Indian astronaut landing on the moon using an Indian spacecraft during "Amrit Kaal."
- PM described the Gaganyaan astronauts as not just individuals but embodiments of the nation's collective strength.


## Sweden joins NATO

## Context:

- Sweden has overcome the final obstacle to join NATO as Hungary has approved its accession.
- Sweden's parliament approved NATO accession on, marking the end of its neutrality that endured two world wars and the Cold War.

Key points:

- Sweden's membership will also contribute resources like advanced submarines and Gripen fighter jets to NATO.
- Russia's invasion of Ukraine accelerated support in Sweden for NATO membership, especially after Finland joined last year.
- Turkey and Hungary, however, initially raised


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objections, with Turkey seeking tougher action against Kurdish militants in Sweden and Hungary expressing annoyance over Swedish criticism of its democracy under Orban.

- Now the count of NATO countries has become 32.


## NATO:

- The North Atlantic Treaty Organization was created in 1949 by the United States, Canada, and several Western European nations to provide collective security against the Soviet Union.
- NATO was the first peacetime military alliance the United States entered into outside of the Western Hemisphere.


## Context:

- C-DOT, India's leading telecom Research and Development center, has received significant recognition by winning three awards at the 14th Annual Aegis Graham Bell Awards.
- These awards highlight C-DOT's innovative telecom solutions developed and designed in India across various categories.

Awards:
Innovation in AI: ASTR Project

- The first award, jointly shared with Google India, was conferred upon C-DOT for its pioneering ASTR Project under the category "Innovation in AI."
- This innovative solution is designed to analyze, identify, and eliminate fake/forged mobile connections, marking a significant stride towards ensuring a secure telecom environment.

Innovation in Social Good: CEIR Solution

- C-DOT secured the second award in the category "Innovation in Social Good" for its groundbreaking CEIR (Central Equipment Identity Register) solution.
- CEIR has revolutionized mobile security by detecting clone IMEIs, restricting the import of counterfeit mobile devices, and facilitating the blocking and tracing of lost or stolen phones.

Innovation in Telecom: Quantum Key Distribution (QKD) Product

- The third accolade was bestowed upon C-DOT in the category "Innovation in Telecom" for its


## Quantum Key Distribution (QKD) product.

- This revolutionary solution ensures unparalleled security, marking a significant advancement in the field of telecommunications.



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