

WHAT IS VYOMMITRA?

The Minister of Science and Technology recently announced that India is set to launch Vyommitra, a female robot astronaut, into space as part of the ambitious Gaganyaan project.



About Vyommitra:

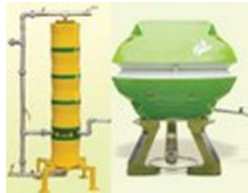
- Vyommitra is a combination of two Sanskrit words Vyoma (Space) and Mitra (Friend).
- It is a **female robot** designed and **developed by the ISRO to fly aboard unmanned test missions ahead of the Gaganyaan human spaceflight mission.**
- It is referred to as a **half-humanoid robot as she doesn't have legs.** However, she can bend forward and sideways.
- Besides going on uncrewed Gaganyaan missions, **she will accompany astronauts on manned missions too.**
- **Features:**
 - The **AI-enabled robot**, which can **withstand vibrations and shock** during the flight, has been designed to **resemble a human with facial expressions, speech, and sight capabilities.**
 - It is equipped with the **capability to monitor module parameters, issue alerts, and execute life support operations.**
 - It can perform tasks such as **operating switch panels**, and serving as a **companion to astronauts, engaging in conversations, recognising them, and responding to their inquiries.**

What is the Gaganyaan mission?

- Under the Gaganyaan Mission, **ISRO will be sending three humans to an orbit of 400 km for a 3-day mission and bringing them back safely to Earth.**

WHAT IS AMRIT TECHNOLOGY?

Recently, the Indian Institute of Technology, Madras has developed a technology called 'AMRIT' (Arsenic and Metal Removal by Indian Technology) technology.



About Amrit Technology:

- It is developed for the removal of **Arsenic and Metal ions from water.**
- The technology uses **nano-scale iron oxy-hydroxide**, which selectively removes arsenic when water is passed through it.
- This water purifier has been developed for both **domestic as well as community levels.**
- Also, the technology has been recommended by the erstwhile 'Standing Committee' of the **Department of Drinking Water and Sanitation** for the examination of the best technologies concerning water and sanitation.

Key points about Arsenic:

- It is a **natural component** of the earth's crust and is widely distributed throughout the environment in the air, water and land.
- It is **highly toxic** in its **inorganic form.**
- **Properties:**
 - In its most stable elemental state, arsenic is a steel-grey, brittle solid with **low thermal and electrical conductivity.**
 - Although some forms of elemental arsenic are metal-like, the element is best classified as a nonmetal.
- It has been recognized as a **toxic element** and is considered a human health hazard.
- Long-term intake of arsenic contaminated water leads to arsenic poisoning or arsenicosis, with cancer of skin, bladder, kidney or lung or diseases of skin.
- **World Health Organisation's** provisional guideline value for arsenic in drinking water - **0.01 mg/l (10 µg/l).**
- Permissible limit of arsenic in India in absence of an alternative source - 0.05 mg/l (50 µg/l).

GP AI SUMMIT 2023: NEW DELHI DECLARATION BAT FOR EQUITABLE ACCESS TO AI RESOURCES

Why in News?

- The Global Partnership on Artificial Intelligence (GP AI) - an alliance of 29 member countries, has unanimously adopted the **New Delhi declaration**.
- The declaration underscored the need to mitigate risks arising from the development and deployment of AI systems, and promote equitable access to critical resources for AI innovation.

What is the Global Partnership on Artificial Intelligence (GP AI)?

- It is **an international initiative** established to guide the responsible development and use of artificial intelligence (AI) in a manner that respects human rights and the shared democratic values of its members.
- **The partnership was first proposed** by Canada and France at the 2018 44th G7 summit, and officially launched in (June) **2020**.
- Started with 15 member countries, today GP AI has grown into an alliance of 29 member countries.
 - It includes countries like **India**, the United States, the UK, France, Japan, Canada, etc.
 - **China**, a major tech superpower, is not part of the multilateral grouping.
- GP AI is hosted by Organisation for Economic Co-operation and Development (**OECD**).

What is the New Delhi Declaration?

- It **promises to position GP AI** at the front and centre of shaping the future of AI in terms of both innovation and creating collaborative AI between partner nations to create applications in healthcare, agriculture, etc.
- **GP AI will now have to be more granular** and get down to defining the contours of the rules that will define how users interact with AI.

- The declaration acknowledged the **need to harness new opportunities** and mitigate the risks arising from the development and deployment of AI. This includes -
 - Concerns around misinformation and disinformation,
 - Unemployment,
 - Lack of transparency and fairness,
 - Protection of intellectual property and personal data, and
 - Threats to human rights and democratic values.
- The declaration also acknowledged **the need for equitable access to resources**, which must be considered, accounted for, or addressed in order for societies to benefit from and build competitive AI solutions.

Significance of the New Delhi Declaration for India:

- This is a significant win for India, which has batted for a collaborative approach towards building AI systems as it looks to push its model of **digital public infrastructure (DPI)** across the world.
- Access to computing capabilities from member nations will also **boost New Delhi's plans of building a sovereign AI system**, crucial for countering dominance from a handful of foreign companies in the space.

PARLIAMENT SECURITY BREACH

Why in news?

- Two persons entered the Lok Sabha chamber and opened canisters that emitted yellow smoke.
 - The two men jumped into the Lok Sabha chamber from the visitor's gallery.
 - This recalled two other incidents that took place in a space of four months almost 30 years ago (in 1994).
- This happened hours after leaders and lawmakers led the nation in paying tribute to those who died in the line of duty this day in 2001 during the terror attack on Parliament House.

- They were carrying visitors' passes, issued to them on the request of BJP Mysuru-Kodagu MP Pratap Simha.

The process of entry for 'strangers'

- A member can apply for the issue of visitors' cards only for those who are very well known to them personally.
- Members applying for a visitor card are also mandated to provide a certificate.
- This certificate should say, "I know the visitor personally, and I am responsible for them. They are my relative or personal friend."
- To address security concerns, visitors must also carry a photo ID with them.

Duration for which passes are issued

- The visitors' cards are usually issued to a member for a particular day for fixed hours. However, in exceptional cases, the rules permit the issue of two cards.
 - A card is ordinarily issued only for a period of one hour.
 - These cards are not transferable and are issued subject to the holder observing the conditions endorsed thereon.
- There is also a provision which allows members to apply for a visitor card on the same day in emergent cases when it is not possible for them to apply within the prescribed time limit.

2001 Parliament attack

- On the morning of December 13, 2001 five terrorists entered Parliament House Complex around 11:40 am in an Ambassador car fitted with a red light.
 - They had forged Home Ministry sticker on the car's windshield.
- A firefight ensued, lasting over 30 minutes. All five terrorists were killed, along with eight security personnel and a gardener. At least 15 people were injured.
 - The 100 or so ministers and MPs in Parliament at the time were unhurt.
- The terrorist assault on the Parliament House was executed jointly by Pakistan-based and supported terrorist outfits, namely, Lashkar-e-Taiba and Jaish-e-Mohammad.

COP28: WHAT WERE THE MOST IMPORTANT DECISIONS, WHERE THEY FELL SHORT

Why in the News?

- The 2023 United Nations Climate Change Conference or Conference of the Parties of the UNFCCC, more commonly known as **COP28**, was held from 30 November until 12 December at Expo City, Dubai, United Arab Emirates.
- The COP28 meet has delivered some important outcomes. However, like all previous COPs, it still remained an underachiever, unable to measure up to the expectations.

What is COP Climate Summit?

- In 1992, at the **Rio Earth Summit**, 154 countries signed a multilateral treaty called the **United Nations Framework Convention on Climate Change** (UNFCCC).
- It aimed to stabilise greenhouse gas concentrations “at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system.”
- The treaty came into force two years later, and since then, countries which are part of the UNFCCC, meet every year at different venues.
- Today, there are 198 ‘parties’ or signatories of the Convention.

Key Outcome of the COP28:

- Overall, there is not enough in the final agreement to accelerate climate action in the short term.
- **Fossil Fuel phase-out:**
 - After much deliberations, the **final agreement called upon countries to contribute towards “transitioning away” from fossil fuels, “so as to achieve net zero by 2050”**.
- **Tripling of renewable energy:**
 - The COP28 agreement calls upon countries to contribute to tripling of global installed capacity of renewable energy, and doubling of annual improvements in energy efficiency.

- **Phase-down of coal:**
 - Despite being a fossil fuel, just like oil or natural gas, coal has received a separate mention in the agreement.
 - This is because coal was already singled out for phase-down in the Glasgow conference (COP26) in 2021.
- **Methane Emission cuts:**
 - Methane is the most widespread greenhouse gas apart from CO₂, accounting for nearly 25 per cent of all emissions.
 - It is also about **80 times more potent than CO₂ in causing global warming.**
 - Methane emission reductions can therefore bring substantial benefits.
- **Loss & Damage fund:**
 - For the poor and vulnerable countries, this was the most important outcome.
 - A decision to set up a Loss and Damage Fund had been taken last year in COP27 but it had not been created, and no money had been promised.
- **Global Goal on Adaptation:**
 - Developing countries had been arguing that a global framework for adaptation was necessary to bring more attention to it.
 - COP28 adopted the framework, but much more needs to be done on this front, particularly in identifying the indicators to measure progress on each of the global goals.
 - **The adaptation agreement currently lacks financial provisions, and countries would need to continue working on it to strengthen it in the coming years.**

WHAT IS THE ORGANIZATION OF ISLAMIC COOPERATION (OIC)?

India recently rejected a statement issued by the OIC on a judgement of the Supreme Court upholding the abrogation of Article 370 that guaranteed special status to Jammu and Kashmir.

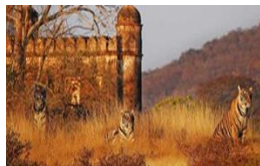


About the Organization of Islamic Cooperation (OIC):

- It is the **second-largest organisation** in the world after the **United Nations**, with a collective population reaching over 1.8 billion.
 - It was **established** in September 1969 upon a **decision of the historical summit** that took place in Rabat, Kingdom of Morocco, on September 25, **1969**, as a **result of the criminal arson of Al-Aqsa Mosque** in occupied Jerusalem.
 - The OIC is the **collective voice of the Muslim world** to ensure and safeguard their interests in economic, social, and political areas.
 - **Objective:** It aims to preserve Islamic values, safeguard and defend the national sovereignty and independence of member states, and contribute to international peace and security.
 - It has a **membership of 57 states** spread over **four continents**.
 - **Headquarters: Jeddah, Saudi Arabia.**
 - **Official languages: Arabic, English, and French.**
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RANTHAMBORE NATIONAL PARK

The Ranthambore National Park administration plans to implement stringent monitoring of safari vehicles with Global Positioning System (GPS) trackers.



About the Ranthambore National Park:

- **Location:**
 - It is located in the Sawai Madhopur district of southeastern **Rajasthan**.
 - It lies at the **junction of the Aravali and Vindhya hill ranges**.
- It was the **former hunting grounds of the Maharajas of Jaipur**.
- It derives its name from the **Ranthambore Fort** situated within its precincts.
- It was on 1st November, 1980, that Ranthambore was declared a national park, while the **forests located beside it were named Sawai Man Singh Sanctuary and Keladevi Sanctuary**.
- **Landscape:** It is characterised by rugged **terrain with dense forests, lakes, and ancient ruins**.

CROSS & CLIMB ROHTAK

- **Vegetation:** The vegetation of the Ranthambhore is **tropical dry deciduous** and **tropical thorn** type due to its hilly track; water is confined to narrow valleys and some lakes.
- **Rivers:** The Chambal River in the south and the **Banas** River in the north **bound the park**.
- There are **several lakes** in the park known as **Padam Talab, Raj Bagh Talab,** and **Malik Talab**.

Flora:

- The most **dominant plant is the 'Dhok'**. This tropical tree **constitutes more than three-fourths** of the vegetation of this national forest.
- Apart from the Dhok tree, the other prime trees in this park are **Banyan, Pipal, and Neem**.

Fauna:

- Its **flagship species is Bengal tiger**.
 - Apart from tigers, the major wild animals include the **leopard, nilgai, wild boar, sambar, hyena, sloth bear, and chital**.
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